City Council of Gibraltar.

ANNUAL REPORT

ON THE

HEALTH OF GIBRALTAR

FOR THE YEAR

1931,

BY

Major G. D. JAMESON, D.P.H., R.A.M.C.,
Medical Officer of Health.

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* Allowance paid to private medical practitioners as a retaining fee for their services.

† Allowance paid to an Officer of the R.A.M.C. for medical services at North Front District.

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The Port Surgeon.

The Surgeon, Colonial Hospital.

The Medical Officer of Health.

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PREFACE.

The General Health of Gibraltar has been satisfactory during the year under review.

There was an epidemic of Influenza during the early part of the year and a large proportion of the population was attacked, but the disease was of a comparatively mild type.

Apart from this, there was no serious outbreak of infectious disease during the year.

The total number of infectious diseases notified was less than the previous year, and the zymotic death rate remains low.

No case of Small Pox or Undulant Fever occurred.

Thanks are due to those who have contributed to the preparation of this Report, and to the Local Press for their continued assistance.

G. D. Jameson, Major R.A.M.C.,
Medical Officer of Health.

Public Health Department,
Gibraltar, June, 1932.

CITY COUNCIL OF GIBRALTAR.

PUBLIC HEALTH DEPARTMENT.

SUMMARY OF VITAL STATISTICS FOR 1931.

Total area of Gibraltar Territory	1,387 acres, 2 roods, 3 poles
Area of the City	104 acres, 3 roods, 33 poles.
Estimated Total Civil Population of Gibraltar	17,613 persons.
Estimated Fixed Civil Population of Gibraltar	16,188 persons.
Births in Fixed Civil Population	195 Males. 182 Females.
Total Births	377.
Birth rate per 1,000 of Fixed Civil Population	23·2.
Deaths in Fixed Civil Population	138 Males. 116 Females.
Total Deaths...	304.
Crude death rate per 1,000 of Total Civil Population...	14·4.
Average crude death rate for previous ten years	16·17.
Death rate from Pulmonary Tuberculosis ...	1·4 per 1,000.
Infantile Mortality rate	61 per 1,000 births.

METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1931.

Latitude 36° 6′ N. Longitude 5° 21′ W.
Instruments verified at the National Physical Laboratory, Kew.

The Meteorological Station is situated in the Alameda Gardens on the South-West side of the "Rock." Barometer 90 ft. above mean sea level. Thermoters and Rain gauge 102 ft. above mean sea level.

The shade thermometers, kept in a Stevenson screen are: one self-recording maximum, one self-recording minimum, a dry and wet bulb. A self-recording grass thermometer is used for registering the temperature on the grass.

The rain gauge is an 8 inch copper meteorological pattern.

The anemometer is fixed in Victoria Gardens, North Front, on the isthmus which joins Gibraltar to the mainland, and clear of the Rock to avoid eddies.

A report is sent twice daily to the Meteorological Office, London, and daily to the *Gibraltar Chronicle* for general information. A complete monthly report is also sent to the Meteorological Office, London, for publication in their journals.

The report contains statistics showing the means for the year in barometric pressure, air, temperature, rainfall, humidity, cloud and wind, compared with the averages for a series of years, number of days of clear sky, overcast days, and days on which rain fell during the year. Readings are taken every day throughout the year at the 7th, 13th, 18th, and 21st hour, but the following tables are compiled from the readings at the 7th, 13th, and 21st hours only.

WEATHER.

Rain Season 1930-31	27·82 inches.
Rainfall for the year 1931	31·34 „
Number of days with 0·1 inch of rain or more	81
Number of days with 0·4 inch of rain or more	61
Wettest day	2·56 ins. 23rd Dec.
Highest recorded temperature in the screen	95°—13th July.
Lowest recorded temperature in the screen	38°—16th Jan.

Mean temperature for the year	65·2
Mean Humidity for the year	74%
Lowest temperature on the grass	33°—16th Jan.
Mean amount of cloud for the year ...	3·9
Number of days of clear sky	103
Number of days of overcast sky	35
Number of days with thunderstorm ...	9
Number of occasions when hail fell ...	1
Number of gales and gale gusts.....	7
Number of days with fog	2
Number of days with frost	—

BAROMETER. The mean Barometric Reading for the year was 30·041 in. when reduced to mean sea level and to a temperature of 32° F. The highest corrected reading of the year was 30·401 in. on January 16th and December 4th, and the highest corrected monthly mean 30·180 in.—December. The lowest corrected reading of the year was 29·389 in. on March 12th, and the lowest corrected monthly mean 29·922 in.—March.

TEMPERATURE. The mean temperature for the year was 65·2 which was 0·9° above the average. The highest shade temperature recorded was 95° on the 13th of July. January, February and November were unusually dry, fine and warm.

WIND. Westerly winds predominated, a gale from the East lasting 32 hours occurred on December 23rd and 24th, doing much damage.

RAINFALL. The rainfall for the year was 4·38 inches below the average. February being unusually dry with a fall of only 0·17 inches. March was the wettest month with 8·09 inches.

HUMIDITY. Normal.

These details and comparative tables of the Meteorology of Gibraltar are given in the Annual Meteorological Report of Gibraltar by Mr. Henry Bentley, Public Works Department, Meteorological Observer.

TABLE I.

Month	Barometric pressure reduced to sea level & 32° Fahr. Inches.	Maximum and Minimum Temperatures.			Difference from average for 40 years.	Maximum date.	Minimum date.
		Maximum °F.	Minimum °F.	Mean °F.			
Jan.	30·125	62·4	49·1	55·8	+ 0·9	72—27th	38—16th
Feb	30·135	63·9	49·0	56·5	+ 0·6	70—16th	42—20th
Mar.	29·922	66·2	54·3	60·2	+ 2·8	74—31st	49—22nd 23rd
April	29·945	69·3	54·3	61·8	+ 0·8	78—27th	47—22nd
May	30·009	74·5	57·5	66·0	+ 0·5	82—9th	51—4th 5th
June	30·037	82·2	64·3	72·3	+ 2·8	91—11th	55—1st
July	29·991	83·3	67·7	75·5	+ 0·7	95—13th	63—2nd 7th
Aug.	29·991	84·	67·2	75·6	— 0·4	93—20th	61—22nd
Sept.	30·013	78·7	65·4	72·1	— 0·4	88—3rd	57—13th
Oct.	30·061	74·1	61·8	67·9	+ 1·8	83—1st	46—29th
Nov	30·085	68·2	57·0	62·6	+ 2·1	75—9th	47—16th 17th
Dec.	30·180	62·9	48·5	55·7	— 0·3	70—6th 9th	40—21st 24th 31st
Year...	30·041	72·5	58·0	65·2	+ 1·0	95—13th July	38—16th Jan.

TABLE II.

Month.	Shade Temperature.			Humidity.		
	7th hour.	13th hour.	21st hour.	7th hour.	13th hour.	21st hour.
January ..	50·6	56·6	52·3	82	71	79
February...	50·5	60·6	53·0	77	57	73
March ...	55·7	62·4	57·5	87	74	84
April	55·7	66·1	58·6	85	64	81
May	59·4	70·5	62·3	81	58	76
June	66·3	77 7	69·1	80	55	72
July.....	69·1	78 7	71·4	78	59	74
August	68·5	79·7	71·4	79	56	74
September	66·2	74·8	68·4	85	65	81
October	63·1	71·2	65·0	84	67	82
November.	58·2	66·3	59·6	86	68	82
December..	50·3	60·6	52·4	79	60	77
Year	59·5	68·8	61·8	82	63	78

TABLE III.

Month	Terrestrial Radiation. Temperature on the grass. Mean °F.	Min. °F.	Date.	Solar Radiation. Black bulb in vacuum. Mean °F.	Max. °F.	Date.
January ...	45·5	33	16th	100	125	27th
February...	45·3	38	6th–20th	104	123	26th
March	51·7	46	22nd, 23rd	98	124	30th
April.....	51·8	44	22nd	107	134	27th
May.....	54·5	46	5th	121	134	17th, 30th
June.....	61·9	52	1st	122	142	11th, 14th
July.....	65·3	59	7th, 8th	124	148	14th
August. ...	64·6	56	22nd	133	149	15th
September	63·6	53	13th	113	140	4th
October	59·5	43	29th	98	138	11th
November..	54·3	42	16th, 17th	100	122	6th, 9th
December..	45·3	35	22nd 31st	97	120	5th
Year	55·3	33	16th Jan.	110	149	15th Aug.

TABLE IV.

Month.	Cloud amount 0–10. 7th hour.	13th hour.	21st hour.	Clear sky days. Less than 0·2 cloud.	Overcast days. More than 0·8 cloud.
January ...	3·4	4·9	3·2	12	4
February...	3·5	3·4	2·0	9	—
March	6·5	7·0	4·9	—	7
April.....	4·3	4·6	3·3	10	5
May	4·4	3·3	2·2	8	—
June.....	3·8	3·6	3·0	9	3
July.....	3·5	2·1	2·6	15	1
August.. ..	2·4	1·7	1·3	17	—
September	4·7	3·8	3·8	6	2
October ...	5·6	5·0	4·3	5	3
November	6·1	5·4	5·0	3	6
December..	4·1	3·9	2·7	9	4
Year	4·4	4·1	3·2	103	35

TABLE V.

Month.	Rainfall 1931.		Greatest fall in 24 hours beginning at 7 a.m.		Number of days with '01 inches or more.	Number of days with '04 inches or more.	Rain Season. 1930-31	
	Total inches.	Deviation from average	Inches.	Date.			Month.	Total inches.
Jan.	1·28	—3·78	0·66	13th	8	6	Aug. ...	—
Feb	0·17	—4·02	0·04	3rd	6	2	Sept. ...	0·04
March ...	8·09	+3·31	1·97	15th	16	13	Oct. ..	2·04
April ...	5·44	+2·80	1·98	10th	11	8	Nov ...	7·25
May.....	0·36	—1·38	0·18	2nd	4	3	Dec. ...	2·95
June.....	0·20	—0·28	0·08	23rd	4	3	Jan ...	1·28
July	—	—0·04	—	—	—	—	Feb. ...	0·17
August...	—	—0·12	—	—	—	—	Mar. ...	8·09
Sept. ...	1·46	+0·08	0·48	28th	7	5	April ...	5·44
October..	5·99	+2·68	2·21	23rd	6	5	May ...	0·36
Nov.....	3·84	—2·56	2·10	5th	11	11	June ...	0·20
Dec.....	4·51	—1·07	2·56	23rd	8	5	July ...	—
Year	31·34	—4·38	2·56	23rd Dec	81	61	Rain Season	27·82

TABLE VI.

Month.	Winds obs. at 7-13-21 hr. 1095=year.								Calm.	Force 1—3	Force 4—7	Force 8 or more
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.				
January ..	5	2	7	2	1	15	26	26	9	59	25	—
February..	4	5	12	4	2	3	27	23	4	43	35	—
March ...	—	1	16	—	3	39	28	6	2	46	45	—
April	1	2	23	12	3	6	20	12	11	57	22	—
May	—	3	13	6	2	25	33	9	2	76	15	—
June	1	6	24	3	3	27	11	3	12	69	9	—
July	—	—	29	3	6	28	20	2	5	71	17	—
August ..	1	1	16	3	—	23	28	9	12	65	16	—
September.	1	1	39	8	1	14	8	6	12	56	22	—
October	2	2	37	5	1	11	16	6	10	54	29	—
November	1	2	25	6	—	11	25	16	4	46	40	—
December .	7	8	22	11	2	4	11	17	11	63	17	2
Year.....	23	33	263	63	24	209	251	135	94	707	292	2

VITAL STATISTICS.

The census of Gibraltar taken on the 26th April, 1931, forms the basis on which the various rates connected with the the vital statistics have been calculated in this report.

Data concerning the Naval and Military population are not ncluded in these figures.

1. POPULATION.

The total Civil population is estimated at 17,613 persons, of which number 15,990 are British subjects other than Maltese, 198 British subjects born in Malta, 1,259 aliens residing in the Town, and 166 aliens resident in the Bay.

The following table shows the fluctuation in population of Gibraltar during recent years:—

How estimated.	British Subjects Fixed Population.	Alien Subjects Floating Population.	Total Population.
Census June, 1921	16,753	1,787	18,540
Police Estimate at end of 1922	16,182	1,145	17,327
Police Estimate at end of 1923	16,165	1,181	17,346
Police Estimate at end of 1924	16,177	1,147	17,324
Police Estimate at end of 1925	16,127	1,161	17,288
Police Estimate at end of 1926	16,150	1,013	17,163
Police Estimate at end of 1927	16,120	1,076	17,196
Police Estimate at end of 1928	15,719	1,112	16,831
Police Estimate at end of 1929	15,647	1,052	16,699
Police Estimate at end of 1930	15,526	922	16,448
Census April 1931	16,188	1,425	17,613

These figures represent the population of Gibraltar between the hours of 10 p.m. and 5·30 a.m. To calculate the daily population it will be necessary to add some 5,000 aliens and 1,500 British subjects residing in La Linea who come into Gibraltar daily.

VITAL STATISTICS DURING 1931 AND PREVIOUS TEN YEARS.

Year	Population.			Deaths				Infantile Mortality.		Births.		Zymotic Mortality.	
	Fixed.	Total.	How Estimated.	Fixed population. No.	Total population. No.	Rate per 1,000 of population.		No.	Rate per 1,000 birth.	No.	Birth rate per 1 000 living of Fixed population	No.	Rate per 1,000 living of Fixed population.
						Fixed population.	Total population.						
1921	16753	18540	Census	282	292	15·74	16·83	44	102·5	429	25·6	33	1·78
1922	16182	17327	Police Estimate	298	304	18·40	17·54	38	103·8	366	22·6	27	1·56
1923	16165	17346		285	294	17·63	16·95	40	109·5	365	22·5	32	1·84
1924	16177	17324		250	254	15·45	14·66	33	91	360	22·2	18	1·05
1925	16127	17288		249	256	15·44	14·80	31	83	372	23	10	·52
1926	16150	17163		271	276	16·78	16·08	46	107	427	25	20	1·2
1927	16120	17196		291	297	18·05	17·27	36	99·1	363	22	13	·8
1928	15719	16831		286	293	18·19	17·40	45	122·9	366	23·2	30	1·7
1929	15647	16699		254	262	16·36	15·68	18	46·6	388	24·7	10	·63
1930	15526	16448		240	240	15·6	14·5	25	71·3	349	22·4	8	·51
1931	16188	17613	Census	250	254	15·4	14·4	23	61	377	23·28	4	·24

The age and sex incidence of the population of Gibraltar in 1931, is as follows:—

	Persons of ten years of age and over.		Persons under 10 years of age.	
	Males.	Females.	Males.	Females.
British Subjects	6,012	7,139	1,406	1,433
Maltese	121	77		
Aliens in the Bay	106			
Aliens in the Town	281	978		
Totals	6,580	8,194	1,406	1,433

Total Males 7,986; Females 9,627.

2. DEATHS.

The number of deaths registered for the resident Civil population was two hundred and fifty. Four deaths occurred in resident aliens, and of the patients brought in expressly for treatment fifty died.

The crude death rate per 1,000 of the fixed population is 15 4; that of the total population 14·4.

The following table shows the crude death rate for the past 10 years:—

Year	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Fixed Population	18·40	17·63	15·45	15·44	16·78	18·05	18·19	16·36	15·6	15·4
Total Population	17·54	16·95	14·66	14·80	16·08	17·27	17·40	15·68	14·5	14·4

3. Monthly and Quarterly Mortality.

The highest number of deaths occurred in January, and the lowest in June and October

The death rate during the first quarter of the year was the highest and that of the fourth the lowest.

The number of deaths registered each month was as follows:—

January ...	42	April... ...	37	July	24	October ...	16
February	34	May	18	August ...	25	November...	19
March ...	31	June... ...	16	September...	21	December...	21
	107		71		70		56

These figures include cases landed from the Bay or brought into the town expressly for treatment.

Causes of death in Civil population in 1931, according to the International Abbreviated List, with Age and Sex incidence.

Cause of Death.	All Ages	Under 1 year.		1 year and under 2.		2 years and under 5		5 years and under 15.		15 years and under 25.		25 years and under 45.		45 years and under 65.		65 years and over.		Deaths in Institutions.
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1. Typhoid Fever	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
9. Influenza	3	—	—	—	1	—	—	—	—	—	—	1	—	—	—	1	—	—
13 Tuberculosis of respiratory system	25	—	—	—	—	—	—	—	—	—	3	7	4	6	3	1	1	10
14. Tuberculosis of nervous system	2	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
15 Other tuberculous diseases	3	—	—	—	—	—	—	—	—	—	1	1	—	1	—	—	—	3
16. Cancer, Malignant tumours	26	—	—	—	—	—	—	—	—	—	—	1	—	8	6	9	2	6
17. Meningitis	4	1	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	3
18. Hæmorrhage, apoplexy and softening of brain ...	16	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	10	2
19. Heart diseases	28	—	—	—	—	—	—	—	—	—	1	2	—	8	1	10	6	6
21. Chronic bronchitis ...	10	—	—	—	—	—	—	—	—	—	—	—	1	4	1	4	—	2
22. Pneumonia	15	—	—	1	1	—	—	—	—	—	—	1	—	6	2	1	3	3
23. Other diseases of respiratory system ...	3		—	—	—	—		—	—		—	1	—	1	—	1	—	2
25. Diarrhœa and enteritis (under 2 years) .. .	2	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
27. Hernia Intestinal obstruction	2	—		—	—	—	—	—	—	—	—	—	—	—	1	—	1	1
29. Acute and chronic nephritis	12	—	—	—	—		—	—	—	1	—	2	1	3	—	3	2	6
31. Puerperal sepsis	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
32. Other accidents of pregnancy and parturition ..	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
33. Congenital debility and malformations	15	7	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
34. Old age...	36	—	—	—	—	—	—	—	—	—	—	—	—	1	—	10	25	22
35. Violent deaths (suicide excepted)	5	—	—	—	—	—	—	—		2	—	2	—	1	—	—	—	3
36. Suicides...	2	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—
37. Other diseases	38	3	1	—	—	—	—	—	—	—	1	3	3	2	6	12	7	14
38. Diseases not stated or ill-defined	4	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
Totals	254	12	11	3	2	1	2	—	—	3	7	22	12	41	24	56	58	98

MATERNITY AND CHILD WELFARE.

The Welfare Centre continues to be well attended and the demands on it were such during 1931, that it was necessary to curtail the issue of milk and other food preparations by having monthly instead of fortnightly meetings as heretofore so that the funds available would cover the output.

With the opening of the Maternity Ward at the Colonial Hospital the number of attendances by the Welfare Nurse in cases of childbirth have been much reduced in late years. Every effort is made to induce the expectant mother to go to hospital, but cases occur in which circumstances render this impracticable.

The number of confinements attended by the Welfare Nurse (and paid out of Colonial Government funds), during the year was 15, as compared with 29 in 1930.

Maternity and Children's Ward, Colonial Hospital—

The admittance of women to the Maternity Ward at the Colonial Hospital during the year was 145, and 149 children were admitted to the Children's Ward during the same period.

STATISTICS.

One hundred and ninety-five males and one hundred and eighty-two females making a total of three hundred and seventy-seven children, were born during the year giving a birth rate of 23·28 per 1,000 of population.

The number of children born in Gibraltar of parents residing at La Linea (British Subjects) was 68; 43 being males and 25 females.

The following is the birth rate of Gibraltar compared with that of England and Wales and Malta, for the past 10 years:-

Year	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
England and Wales	20·6	19·7	18·8	18·3	17·8	16·6	16·7	16·3	16·3	—
Malta	36·4	34·5	34·6	33·3	32·9	32·6	31·7	33·2	34·15	—
Gibraltar...	22·6	22·5	22·2	23	25·2	22·5	23·2	21·7	22·4	23·2

INFANTILE MORTALITY.

The infantile mortality rate again shows a large drop as compared with previous years, except for 1929, when the exceptionally low figure of 46 deaths per 1,000 births was recorded.

The rate for 1931 was 61 deaths under one year of age per 1,000 births, and the accompanying table is given for comparison with the figures for recent years.

Year	England & Wales	Malta	Gibraltar
1911	130	—	119
1912	95	—	78
1913	108	—	75
1914	105	—	93
1915	110	—	90
1916	91	—	123
1917	96	—	113
1918	97	—	124
1919	89	—	108
1920	80	—	128
1921	83	—	102
1922	77	261	103
1923	69	280	109
1924	75	268	91
1925	75	271	83
1926	70	260	107
1927	69	301	99
1928	69	267	121
1929	74	260	46
1930	60	296·70	71
1931	—	—	61

WELFARE CENTRE.

The attendances of mothers bringing their children to be weighed and for advice numbered 1,855, and the average number of children weighed at each meeting was 75. These figures show a decline on previous years, but it should be realised that the greater number of those attending do so to obtain the privilege of cheap milk, etc., and, as has already been stated, the necessity for retrenchment has rendered it imperative to limit such issues strictly to very necessitous cases.

As, however, the Centre is open daily the attendances of mothers bringing children to be weighed on irregular days have been numerous, and the Centre is generally appreciated. No records are kept of these attendances.

The amount of Milk, Virol, Glaxo and other food preparations, etc., issued during the year was as follows:—

Milk	3,710 tins
Glaxo	86 „
Nestle Food	9 „
Virol	7 pots
Feeders	50 No.

The trained nurse paid 112 visits to the homes of Children during the year.

The Anglo-Swiss Condensed Milk Company has continued to supply the Centre with milk at a reduced rate.

MIDWIVES.

Eight midwives are registered under "The Midwives Ordinance, 1907."

The number of live births attended by registered midwives during the year was 189 or 50·1 per cent. of the total births, as compared with 51·8 per cent. for the previous year.

The number of still-births for the year was 17.

The inspection of midwives, carried out at intervals during the year, proved on the whole, satisfactory.

Two midwives who had attended on cases of puerperal fever were suspended from practice for 15 days, and their bags, etc. disinfected.

SCHOOL CLINIC.

The school clinic has been carried on by members of the medical and nursing staff of the Colonial Hospital.

The duties of school dentist have been carried out by Mr. Garesse.

CAUSES OF, AND AGES AT, DEATH OF INFANTS UNDER ONE YEAR OF AGE IN GIBRALTAR DURING 1931.

Cause of Death.	Under 1 week.	1 week and under 2.	2 weeks and under 3.	3 weeks and under 4.	Total under 4 weeks.	1 month and under 3.	3 months and under 6.	6 months and under 9.	9 months and under 12.	Total under 1 year.
Convulsions	1	—	—	—	1	—	—	—	—	1
Prematurity	5	—	—	1	6	—	—	—	—	6
Congenital debility and malformations	1	2	—	—	3	—	2	—	1	6
Other diseases peculiar to early infancy.....	5	—	—	—	5	—	—	—	—	5
Congenital heart disease	—	—	—	1	1	—	1	—	—	2
Meningitis	—	—	—	—		—	—	1	—	1
Gastro-Enteritis	—	—	—	—	—	—		2	—	2
Totals	12	2	—	2	16	—	3	3	1	23
Death rate in each age period per 1,000 births	31·8	5·3	—	5·3	42·4	—	7·9	7·9	2·6	61
Percentage of total infant deaths occurring in each age period	52·3	8·6	—	8·6	69·5	—	13	13	4·3	—

PREVALENCE AND CONTROL OF INFECTIOUS DISEASES.

Apart from an epidemic of Influenza, the year under review has been remarkably free from infectious disease.

The number of cases of notifiable infectious diseases reported during the year, exclusive of Naval and Military cases and cases landed from shipping in the Bay or brought into the Town for treatment, was three hundred and two. This is a decrease of ninety-one as compared with the previous year.

Of the 302 cases reported, 123 were cases of Pneumonia and Influenzal Pneumonia.

Four deaths were attributed to one or other of the eight principal infectious diseases (1 Enteric Fever and 2 Diarrhœa and Enteritis), giving a zymotic death rate of .18 per 1,000 of population.

The main features of the year were :

1. Prevalence of Influenza during the early part of the year.
2. A rise in the number of cases of Pneumonia and Influenzal Pneumonia notified.
3. Continued absence of cases of Undulant Fever and Small Pox.

The Influenza epidemic occurred in the late winter and early spring. Influenza is not a notifiable disease under the Public Health Ordinance, 1907, and therefore, exact figures are not available. The disease was of a comparatively mild nature, but tended to spread with considerable rapidity and there is no doubt that a large percentage of the population was attacked.

Pamphlets giving advice and instruction on measures of prophylaxis were issued by the Public Health Department and Sanitary Inspectors paid frequent visits to places of entertainment, cafes etc., to ensure that these places were thoroughly ventilated and disinfected at regular intervals, and that special care was taken in the sterilization of eating and drinking utensils after use.

In institutions where measures of prophylaxis could be systematically carried out and controlled, a considerable measure of success was attained, but the crowding which still exists in certain localities of the City makes the general control of droplet infections a matter of considerable difficulty.

QUARTERLY INCIDENCE OF NOTIFIABLE INFECTIOUS DISEASES. CIVIL POPULATION.

Disease	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total	Deaths
Enteric Fever	4	2	—	4	10	1
Pneumonia	37	29	13	28	107	15
Pulmonary Tuberculosis	8	5	9	9	31	25
Erysipelas	10	6	11	7	34	—
Mumps	1	—	—	1	2	—
Influenzal Pneumonia	15	—	—	1	16	—
Chicken Pox	12	3	1	—	16	—
Measles	9	9	4	1	23	—
Rubella	1	15	4	8	28	—
Diphtheria	1	1	1	7	10	—
Puerperal Fever	—	1	—	1	2	1
Scarlet Fever	—	3	—	8	11	
Gastro Enteritis	—	1	1	—	2	3
Venereal Diseases	—	3	4	1	8	—
Acute Poliomyelitis	—	—	1	—	1	—
Ophthalmia Neonatorum	—	—	1	—	1	—
Totals	98	78	50	76	302	45

CASES LANDED FROM THE BAY OR BROUGHT INTO THE TOWN FOR TREATMENT.

Disease	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total	Deaths
Pulmonary Tuberculosis	1	2	1	1	5	3
Enteric Fever	2	—	1	—	3	—
Pneumonia	2	1	—	—	3	5
Diphtheria	—	—	1	—	1	—
Gastro Enteritis	—	—	1	—	1	1
Cerebro-Spinal Meningitis	—	—	—	1	1	1
Totals	5	3	4	2	14	10

Age and Sex incidence of notifiable Infectious Diseases amongst Civil Population during 1931.

Notifiable Disease.	NUMBER OF CASES NOTIFIED.														Districts.			Total cases removed to Hospital	
	At all Ages	Under 1.		1 and under 5.		5 and under 15.		15 and under 25.		25 and under 45.		45 and under 65.		65 and Over.		North.	Central	South	Residents.	Non-Residents.
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.					
Enteric Fever	10	—	—		—	—	1	2	2	2	2	—	—	1		—	10	—	3	3
Pneumonia	107	2	5	19	17	8	8	2	1	6	6	15	6	2	10	2	101	4	9	3
Pulmonary Tuberculosis ...	31	—	—	1	—	—	—	5	3	4	3	8	6	—	1	—	29	2	2	4
Erysipelas	34	—	—	—	1	—	—	—	3	3	5	10	7	—	5	1	29	4	4	—
Mumps	2	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Influenzal Pneumonia	16		1	—	—	2	-	2	—	2	3	1	3	—	2	—	15	1	1	—
Chicken Pox	16	—	—	1	1	5	5	—	1	—	2	—	-	—	—	—	7	9	—	—
Rubella	28	1	—	2	1	15	5	—	1	2	1	—	—	—	—	1	25	2	—	—
Diphtheria	10	—	—	1	3	1	2	1	1	—	1	—	—	—	—	—	8	2	2	1
Puerperal Fever	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	2	—	1	—
Scarlet Fever	11	—	—	1	1	4	3		—	—	2	—	—	—	—	—	9	2	—	—
Gastro-Enteritis	2	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	2
Ophthalmia Neonatorum ...	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Venereal Diseases ...	8	—	—	—	—	—	—	4	—	4	—	—	—	—	—	—	8	—	—	—
Acute Poliomyelitis ...	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Measles	23	—	—	4	1	3	8	1	2	1	3	—	—	—	—	1	12	10	—	—
Totals	302	4	7	32	25	39	32	17	14	24	30	34	23	3	18	5	261	36	22	13

Monthly notification of notifiable Infectious Diseases.—Civil Population.

Months.	Enteric Fever		Pneumonia		Pulmonary Tuberculosis		Erysipelas		Mumps		Influenzal Pneumonia		Chicken Pox		Rubella		Diphtheria		Puerperal Fever		Scarlet Fever		Gastro-Enteritis		Ophthalmia Neonatorum		Venereal Diseases		Acute Poliomyelitis		Measles	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
January	3	—	6	2	3	6	3	—	1	—	4		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
February	—	—	22	4	4	1	3	—	—	—	10	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—
March	1	1	9	1	1	—	4	—	—	—	1	—	11	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—
April	1	—	18	1	2	4	1	—	—	—	—	—	3	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
May	—	—	4	1	1	1	3	—	—	—	—	—	—	—	3	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	1	—
June	1	—	7	—	2	2	2	—	—	—	—	—	—	—	12	—	—	—	—	—	2	—	1	—	—	—	3	—	—	—	8	—
July	—	—	5	—	2	3	7	—	—	—	—	—	1	—	3	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	4	—
August	—	—	4	—	2	3	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
September	—	—	4	2	5	1	2	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	2	1	—	1	—	—	—	—	—
October	1	—	3	—	3	2	3	—	—	—	—	—	—	—	1	—	1	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—
November	3	—	6	1	2	—	3	—	1	—	—	—	—	—	—	—	1	—	1	—	6	—	—	—	—	—	—	—	—	—	—	—
December	—	—	19	3	4	2	1	—	—	—	1	—	—	—	7	—	5	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Totals	10	1	107	15	31	25	34	—	2	—	16	—	16	—	28	—	10	—	2	1	11	—	2	2	1	—	8	—	1	—	23	—

ENTERIC FEVER.

Ten cases of "enteric group" fevers were notified during the year, four being paratyphoid infections. One case proved fatal.

This figure is somewhat higher than last year (which was abnormally low) but does not indicate any undue prevalence as compared generally with recent years. Of the B typhosus infections, three can be attributed to infection contracted in Spain. Investigations failed to reveal definitely the source of infection in the remaining three cases which occurred sporadically during the year. In addition three cases were landed from the Bay or brought into the Town for treatment.

SEASONAL PREVALENCY OF ENTERIC FEVER IN GIBRALTAR DURING 1931.

	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.	Total
Local cases ...	3	—	1	1	—	1	—	—	—	1	3	—	10
Imported cases	—	1	1	—	—	—	1	—	—	—	—	—	3

AGE AND SEX DISTRIBUTION.

Age	Under 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 45		45 to 65		65 & over		Total.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Cases	—	—	—	1	—	—	1	2	1	—	2	2	—	—	1		5	5
Deaths	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—		1

DIPHTHERIA.

Ten cases were notified during the year, a considerable decrease as compared with the previous year. In addition, one case was brought into the Town for treatment. There were no deaths. The seasonal prevalency of the disease is shown below.

Of the five local cases notified in December, four were traced to infection by alien servants who were proved bacteriologically to be 'carriers' of fully virulent K.L.B.

DIPHTHERIA ANTITOXIN.

Seventy-eight thousand units were supplied to the hospital and to the local private medical practitioners by the Public Health Department.

SEASONAL PREVALENCY OF DIPHTHERIA IN GIBRALTAR DURING 1931.

Month	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Local Cases	—	—	1	1	—	—	—	—	1	1	1	5	10
Imported Cases	—	—	—	—	—	—	—	—	1	—	—	—	1

AGE AND SEX DISTRIBUTION.

Age	Under 3		3 to 5		5 to 10		10 to 15		15 to 20		20 to 25		25 to 45		45 to 65		65 & over		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Cases	—	2	1	1	—	—	1	2	1	1	—	—	—	1	—	—	—	—	3	7
Deaths	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Nil	

PNEUMONIA.

There were 123 local cases notified during the year, of which 16 were returned as influenzal pneumonia. The majority of the cases occurred in the first four months of the year and may be taken as an index of the prevalence of influenza.

SEASONAL PREVALENCY.

Month	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
Pneumonia	6	22	9	18	4	7	5	4	4	3	6	19	107
Influenzal Pneumonia	4	10	1	—	—	—	—	—	—	—	—	1	16

UNDULANT FEVER.

No case of this disease was notified during the year.

SMALL POX.

For the seventh year in succession, no case of this disease occurred in Gibraltar nor was any case landed from the Bay or brought into the Town for treatment.

The continued immunity of the City from this disease may be considered to be the direct result of strict compliance with the vaccination laws in force.

Vaccination.

The number of vaccinations performed during the year was 553. Of these 246 were on children who had attained the age of 12 years. The Public Vaccinator carried out 537 vaccinations and re-vaccinations during the year.

The following statistics show the state of vaccination for births during the year 1931 :—

Number of children born	377
Died before vaccination	14
Left Gibraltar	53
Certified as insusceptible to vaccination	3
Vaccination postponed	48
Number successfully vaccinated	181
Objectors to vaccination	1
Outstanding (under 3 months of age)	77

VENEREAL DISEASE.

The treatment centre is established at the Colonial Hospital where both in and out-patients are treated free of charge.

Laboratory investigations in connection with venereal disease are undertaken at the Public Health Laboratories free of charge to Gibraltar residents and Gibraltarians residing in the neighbourhood, and to the Port.

The number treated in the Male Venereal Ward Colonial Hospital was 29, of which number 6 were mercantile seamen.

The number of intravenous injections was 266.

PULMONARY TUBERCULOSIS.

The number of cases of pulmonary tuberculosis notified during the year was 31, giving a case rate of 1.7 per 1,000 of population.

The disease accounted for 25 deaths, equivalent to a death rate of 1.4 per 1 000 of population.

The number of cases of this disease accommodated during the year in the Gibraltar Home for Sick and Aged was 10.

AGE AND SEX DISTRIBUTION OF CASES AND DEATHS FROM PULMONARY TUBERCULOSIS IN GIBRALTAR DURING 1931.

Age	Under 5		5 to 10 years		10 to 15 years		15 to 20 years		20 to 25 years		25 to 30 years		30 to 40 years		40 to 50 years		50 to 60 years		60 years and over		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Cases	1	—	—	—	—	—	3	2	2	1	—	1	1	2	5	3	4	2	1	3	17	14
Deaths	—	—	—	—	—	—	—	1	—	2	1	2	3	2	5	2	4	1	1	1	14	11

DESTITUTE SICK AND TUBERCULOSIS SCHEME.

This is maintained by an annual Colonial Government grant administered by the City Council, and is divided into :—

(*a*) Outdoor Relief.
(*b*) Indoor Relief.

(*a*) OUTDOOR RELIEF.

All cases applying for relief are investigated by the Medical Officer of Health whose recommendations are brought before a Standing Committee composed of members of the City Council. Relief is limited to British subjects resident in Gibraltar who are in poor circumstances and by reason of illness or injury are unable to earn a livelihood.

Relief is given in the form of meat and milk.

Monetary relief is contrary to the Council's general policy and is only given in every exceptional cases.

The number of persons in receipt of outdoor relief during the year was as follows :—

January	79
February	77
March	77
April	73
May	74
June	74
July	68
August	69
September	66
October	66
November	67
December	73

The total amount of relief issued during the year was :—

Meat	5,725 lbs.
Milk (fresh)	3,770 pints
Milk (condensed)	3,876 tins

The total amount expended on Outdoor Relief during the year was £598.

(*b*) INDOOR RELIEF.

The Gibraltar Home for Sick and Aged, situated in Flat Bastion Road, accommodates destitute persons ineligible or unwilling to enter other charitable institutions and has a portion set apart specially for the reception of cases of pulmonary tuberculosis.

The 'Home' has accommodation for 45 men and 25 women.

During the year the average number accommodated in the 'Home' was 58, including 10 cases of pulmonary tuberculosis.

During the year thorough re-decorations and repair of the buildings were carried out; a work which was urgently needed and which had been unavoidably postponed from the previous year for financial reasons.

Certain minor structural alterations were also undertaken which resulted in the provision of an extra sitting room for the men, a larger dining room for the women and the more complete separation of the sexes. Electric radiators were also installed in the sitting rooms and dining rooms. The present buildings have still, however, many structural disadvantages and are capable of considerable improvement. Proposals were put forward and considered during the year but in view of the expenditure likely to be involved, it was considered necessary to postpone all major works during the present period of financial stringency.

The cost of feeding has averaged 10½d. per head per day, which allows for an ample dietary and provides special food for cases of pulmonary tuberculosis.

The all-in cost per head per day was 1/10¼d.

The total expenditure on indoor relief was £1,968.

The total expenditure on outdoor and indoor relief during the year was £2,951.

DESTITUTE SICK AND TUBERCULOSIS SCHEME.

SUMMARY OF INDOOR AND OUTDOOR EXPENDITURE FOR THE YEAR 1931.

INDOOR RELIEF.

	£	s.	d.	£	s.	d.
Provisions	935	2	7			
*Miscellaneous	242	18	2			
Maintenance of Buildings	163	1	1			
Rent	283	8	6			
Light	33	10	5			
Water	63	15	3			
Telephone	10	0	0			
Printing	2	6	6			
Insurance	1	10	0			
Funeral Expenses	5	18	0			
Clothing, etc.	226	12	6			
				£1,968	3	0

Days of subsistence	21,261
Average number of inmates	58
Cost of feeding per head per day	10½*d.*
Cost of feeding per head per year	£16 2 5½
Total all-in cost per head per day	1/10¼
Total all-in cost per head per year	£33 18 8
Calories per head per day	2,838

OUTDOOR RELIEF.

	£	s.	d.			
Meat—5,725 lbs.	214	13	9			
Milk (Fresh)—3,770 pints	55	0	2			
Milk (Condensed)—3,876 tins	136	0	0			
Money grants	172	7	0			
Printing	9	3	4			
Funeral expenses	10	16	6			
				598	0	9
Salaries				385	0	0
Total expenditure on Indoor and Outdoor Relief for 1931				£2,951	3	9

*Includes washing and cleaning, coal and charcoal, boot repairs, utensils, ice, medicines, tobacco for inmates, etc., etc.

INVESTIGATION AND PREVENTION OF OTHER DISEASES.

MOSQUITOES.

The Council employ a small permanent anti-mosquito staff who carry out anti mosquito measures continually throughout the year. This staff is augmented during the summer months by personnel engaged solely for this service. As in former years, the supervision of anti-mosquito work was under the direct control of a sanitary inspector specially detailed for this work. Close co operation is maintained with the Naval and Military authorities.

Special attention was paid to certain localities which have given considerable trouble in recent years where, it is hoped, the breeding grounds may be permanently eliminated. Anti-mosquito measures in Gibraltar are, however, mainly a matter of continual supervision of tanks cisterns and small collections of water, and it is only by strict attention to detail on the part of the anti-mosquito squads and co-operation on the part of owners of private properties that any measure of success can be attained.

During the winter months an inspection is made of all tanks, both roof and underground tanks, to ensure that these are mosquito proof. The number of tanks examined during the year was as follows :—

	Inspected.	Found defective.
Fresh water tanks	341	30
Brackish water tanks	182	9
Total	523	39

The number of men employed during the year on anti-mosquito work was as follows :—

2 men from 1st January to 6th May.
5 men from 7th May to 5th July.
8 men from 6th July to 13th July.
9 men from 14th July to 30th September.
4 men from 1st October to 31st October.
2 men from 1st November to 31st December.

MOSQUITO CAMPAIGN RETURN FOR 1931.

Week ending		Premises Visited.	Town—Lower				Town—Middle				Town—Upper				South				North Front				Totals
			Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	
Jan	3	239	...	...	...	...	...	..	...	...	...	..	...	..	...	...	...	...	...	...	..	...	...
	10	484	...	...	1	1	...	..	...	...	...	...	..	...	...	...	...	4	...	...	...	...	6
	17	494	...	...	...	1	...	...	...	...	2	...	...	...	..	...	...	..	...	...	...	...	3
	24	485	...	...	...	...	...	..	...	...	1	...	...	...	...	...	...	..	...	...	...	...	1
	31	490	...	...	...	...	...	...	...	...	..	...	..	...	1	...	...	1	...	...	...	...	2
Feb.	7	481	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
	14	463	...	...	...	.	...	...	...	...	..	...	...	...	...	...	...	...	...	..	...	...	...
	21	486	...	...	..	...	...	..	...	...	..	...	...	...	..	...	...	...	...	...	...	...	...
	28	484	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
Mar.	7	506	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	14	498	...	...	...	..	...	...	..	...	...	...	...	...	...	...	...	...	...	..	...	...	...
	21	484	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	28	488	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
April	4	411	...	..	...	...	.	...	...	..	..	.	...	...	...	...	...	4	...	...	...	...	4
	11	489	...	...	. .	4	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	5
	18	496	...	...	...	2	...	...	...	...	3	1	..	...	..	...	...	2	...	..	...	...	8
	25	494	...	...	...	..	2	...	...	2	2	...	1	...	...	...	...	1	..	...	...	...	8
May	2	480	...	...	...	...	..	..	...	...	2	...	...	..	...	..	..	4	...	...	...	...	6
	9	540			1	...	..	...	..	1	2	.	...	...	...	...	...	3	...	..	...	...	7
	16	809	...	...	...	1	10	3	...	...	6	1	.	...	...	...	...	8	...	...	...	...	29
	23	773	...	...	3	3	6	2	...	1	7	...	..	...	1	...	..	4	...	...	...	1	28
	30	855	1	...	5	1	5	2	...	...	5	...	...	...	1	...	1	3	...	...	...	1	25
June	6	865	..	...	...	1	6	1	1	...	3	...	3	...	1	...	...	6	2	...	...	..	24
	13	847	2	...	...	...	2	1	...	1	1	...	1	1	2	...	...	4	...	...	..	2	17
	20	924	2	...	1	2	3	2	...	2	5	...	...	...	..	...	...	7	1	1	...	...	26
	27	839	1		1	...	4	..	...	3	8	2	3	...	1	2	...	8	1	...	...	19	53
July	4	816	1	...	1		5	...	1	...	8	...	...	...	2	1	..	2	...	...	...	...	21
	11	835	3	...	2	2	7	2	...	3	18	...	1	...	..	2	1	10	1	...	...	8	60
	18	862	6	...	3	2	5	1	...	3	14	1	2	2	1	2	1	5	3	...	...	4	55
	25	781	...	...	2	2	8	.	1	1	14	...	1	1	2	...	1	5	...	..	...	6	44
Aug.	1	847	2	...	1	3	10	2	1	...	13	1	2	...	1	1	1	4	...	..	...	2	44
	8	832	1	..	1	2	9	1	2	1	15	...	3	...	1	...	...	6	2	1	...	...	45
	15	827	1	...	1	2	8	...	3	3	12	2	...	1	1	2	...	4	...	...	...	...	40
	22	830	...	2	...	2	7	...	5	...	10	...	2	...	1	...	1	5	..	...	...	...	35
	29	819	1	...	1	1	10	..	1	...	14	...	4	...	1	...	4	4	...	...	...	...	41
Sept.	5	846	...	...	...	1	9	...	...	...	7	1	2	..	..	...	1	5	2	...	...	...	28
	12	821	2	...	5	1	14	...	2	1	16	...	...	1	1	...	...	1	...	...	...	4	42
	19	815	...	...	..	..	9	...	...	...	12	1	2	1	1	2	1	...	...	...	...	1	30
	26	824	2	...	...	1	9	2	...	...	10	...	...	4	2	...	...	2	...	...	...	...	32
Oct.	3	811	...		...	...	8	...	2	...	7	...	2	...	..	...	...	1	...	...	...	...	20
	10	773	...	2	...	2	9	...	...	...	11	..	...	...	...	1	...	2	...	...	...	...	27
	17	787	...	...	..	...	10	..	...	...	6	...	2	...	...	...	...	5	1	...	...	...	24
	24	777	...	...	...	...	9	...	...	...	3	..	...	...	2		..	...	1	...	...	...	15
	31	788	4	...	...	.	4	...	...	.	3	...	...	...	...	...	1	1	...	...	...	...	13
Nov.	7	465	...	...	...	3	.	...	...	...	14	...	...	...	...	...	...	0	...	...	...	...	27
	14	463	...	...		...	...	..	...	...	2	...	...	...	...	...	...	6	...	..	...	...	8
	21	460	...	...	...	...	...	...	...	...	2	...	...	1	1	...	1	..	...	..	...	..	5
	28	461	...		...	1	...	...	...	...	2	...	...	...	..	...	...	...	...	...	...	...	3
Dec.	5	459	...	...	..	1	...	...	...	...	4	...	...	...	...	...	..	1	...	...	...	...	6
	12	458	..	...	...	3	...	...	...	...	2	1	...	...	..	...	...	...	...	...	...	...	6
	19	445	..		..	...	..	...	...	..	1	..	1	..	..	...	...	3	..	...	...	...	5
	26	409	...	..	...	...	.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	31	392	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals		33,607	29	4	29	45	188	19	19	22	261	11	32	12	24	13	14	142	14	2	...	48	928

Others include—Fresh water tanks, eavesgutters, pits, gullies, galvanized iron tanks, boats, underground tanks, galvanized iron baths, disused tins, storm water drains, buckets, sinks, sumps, pots, brackish waters tanks, bottles, flower pots, grinding stones, concrete tanks, animal drinking troughs, &c.. &c.

SUMMARY.

Tubs	516	1st Offences	354
Barrels	49	2nd „	87
Earthenware Vessels	94	3rd „	28
Others	269	4th „	15
		5th & over	2
Total	928		

Total number of premises in which breeding places were found... 581

FLIES.

Active measures were taken during the summer months and a Sanitary Inspector was detailed to visit all stables to ensure that manure was properly removed and that the stables were disinfected weekly.

The double daily collection of house refuse was again put into force during the summer.

Owing to the limited space available and the fact that there is no market for manure in Gibraltar, the satisfactory disposal of manure still remains a difficulty. A certain amount is transported to Spain by private contractors. A limited amount is incinerated and the remainder dumped into the sea. As this latter method has to be, at any rate partially, suspended during the summer owing to the risk of fouling the beaches, the difficulties become more acute at a time when fly-breeding is most likely to occur.

The number of disinfections carried out in stables during the year was 1,110.

RAT REPRESSION.

The rat campaign was carried out on the same lines as in previous years. Traps and poison baits are the methods employed, and the ratcatchers are entitled to a small bonus for all rats caught or killed.

A certain number of the rats collected are sent weekly to the City Analyst for examination. No plague infected rats were discovered during the year.

The following tables summarise the results for the year.

Rats destroyed during 1931, by Districts (not including H.M. Dockyard).

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
South District	403	302	319	277	289	273	331	275	244	295	225	216	3,449
Town ,, ...	470	378	400	396	339	341	385	357	300	297	276	252	4,191
North ,, ...	137	90	108	110	96	67	77	50	89	63	43	47	977
Sheds and Warehouses Waterport Wharf and Commercial Mole	28	16	22	15	12	17	13	15	27	19	22	14	220
Total.....	1,038	786	849	798	736	698	806	697	660	674	566	529	8,837

Rats examined during 1931.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
Infected	—	—	—	—	—	—	—	—	—	—	—	—	—
Uninfected	9	12	12	3	12	3	3	—	—	—	6	15	75

Number of poisoned baits laid by Rat Catchers during 1931.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
8,412	6,604	6,722	7,441	8,361	8,704	7,020	7,261	8,567	9,302	7,324	8,137	93,855

Rats destroyed during 1931.

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec	Total
Civil and Colonial Property	Trapped ...	1,026	778	834	788	727	688	791	686	651	660	558	524	8,711
	Poisoned...	12	8	15	10	9	10	15	11	9	14	8	5	126
H.M. Dockyard	Trapped ...	107	94	110	95	98	102	108	127	110	79	158	184	1,372
	Poisoned...	36	21	43	24	42	37	23	19	30	13	10	14	312
Total.....		1,181	901	1,002	917	876	837	937	843	800	766	734	727	10,521

MEDICAL WORK OF THE COUNCIL.

It is the policy of the Council to cause all workmen to be medically examined prior to employment, and the numbers so examined by the Medical Officer of Health during the year were as follows:—

January	19
February	2
March	17
April	1
May	10
June	1
July	14
August	3
September	1
October	1
November	3
December	2
Total	74

All men injured on duty are first seen by the Medical Officer of Health and then sent to Hospital for treatment the expenses being borne by the Council. Sick injury pay is allowed whilst under treatment.

The number of men treated as in-patients during the year was 7, and the total number of days in which men were absent from work due to disability amounted to 790.

SERA, VACCINES, &c., KEPT IN STOCK.

Anti-Meningococcus Serum
Anti-Streptococcus Serum
Anti-Anthrax Serum
Anti-Dysentery Serum
Tetanus Antitoxin
Influenza Vaccine
Scarlet Fever Streptococcus Antitoxin
Calf Lymph
Anti-Plague Serum
Plague Prophylactic
Cholera Vaccine
Diphtheria Antitoxin
Tuberculin

DISINFECTION.

The routine disinfection of all premises (including bedding, clothing, etc.) after the occurrence of infectious disease was continued during the year. Premises are disinfected under the strict supervision of a Sanitary Inspector by formalin spray or vapour, and the bedding, etc., is subjected to steam disinfection at the Council's Disinfecting Station, North Front. These disinfections are carried out free of charge, and when it is considered expedient to destroy any article of bedding, etc., compensation is granted.

All stables were disinfected weekly during the fly-breeding season.

The following table gives the details of disinfections carried out during the year :—

Number of premises disinfected for infectious disease...	132
Number of premises disinfected for vermin	15
Number of disinfections carried out in stables.....	1,110
Number of articles disinfected at North Front Disinfecting Station	6,416

DETAILS OF ARTICLES DISINFECTED BY MONTHS.

Month	Beds and Mattresses	Bolsters and Pillows.	Blankets and Quilts.	Sheets.	Counterpanes.	Books.	Sundries.	Totals.
January	53	119	99	87	8	—	309	675
February	29	45	46	30	3	—	53	206
March	50	45	40	27	2	—	55	219
April	44	81	62	57	—	—	201	445
May	133	248	201	203	—	—	489	1,274
June	125	249	184	163	—	—	388	1,109
July	53	103	78	62	—	—	274	570
August	51	43	26	29	2	—	132	283
September	159	92	91	63	—	—	33	438
October	141	145	121	116	8	—	83	614
November	80	73	42	33	1	—	21	250
December	125	91	56	42	1	—	18	333
Totals	1,043	1,334	1,046	912	25	—	2,056	6,416

AMBULANCE FACILITIES.

The same arrangements as explained in previous reports have continued to operate during 1931.

Two men in the Department are qualified drivers and alternate their duties to render the service continuous. In addition, the Sanitary Inspectors (who in turn take duty after office hours) are licensed drivers.

Local infectious cases are conveyed free of charge.

Details of cases conveyed in the Ambulance during 1931, are as follows :—

	Local Cases	Bay Cases
Fractures	2	 12
Pulmonary Tuberculosis ...	3	 1
Diphtheria	2	 1
Pneumonia	1	 5
Dysentery	1	 1
Appendicitis	—	 5
Enteric Fever	1	 2
Gastro-Enteritis	1	 1
Scarlet Fever	1	..... —
Puerperal Fever	2	..... —
Miscellaneous	17	 19
	—	—
Totals	31	 47
	—	—

REPORT OF THE CITY ANALYST AND BACTERIOLOGIST.

The total number of specimens and samples of all classes examined during the year 1931 was 4,519. Over ninety-eight per cent. of the work was in connection with the public health of Gibraltar and the personal well-being of the people.

The activities of the City Laboratory have been maintained. It is satisfactory to be able to report a marked reduction in the number of foodstuffs found to be below the statutory limits. For the greater part these were not of a serious nature. An increase of ninety-five samples taken under the Public Health Ordinance is noticed. A series of bacteriological examinations were carried out as a check on the efficient sterilisation of milk. Research as to the presence of nitrates in Gibraltar and Spanish waters to secure possible corroborative evidence in connection with the adulteration of milks by watering was undertaken.

The report is divided into four parts, as follows:—

Part I.—Food and Drugs, Public Health Ordinance.

Part II.—Miscellaneous.

Part III.—Bacteriology, Chemical Pathology and Public Health Work.

Part IV.—Testing of ships for inflammable gas.

PART I.

Article	*Number examined*
Cow's Milk	19
Goat's Milk	76
Butter	4
Margarine	7
Lard	6
Spirits (Whiskey, Rum, Gin, Brandy)	21
Tea, Coffee and Cocoa	6
Cereals	15
Olive Oil	14
Mineral drinks	27
Drugs	23
Total	218

ADULTERATED SAMPLES.

The number of samples found to be below the standards set out in the Public Health Ordinance was 11, or 5 per cent. For comparison, the number below the standard for 1930 was 15.5 per cent.

In all cases where the City Council considered it advisable legal action was instituted against the vendor. Two convictions were obtained for addition of water to milk. Fines amounted to £6 and costs £2 6 0.

PARTICULARS OF ADULTERATED SAMPLES.

GOAT'S MILK CONTAINING ADDED WATER.

Lab. No.	Fat	Non-fatty Solids.	Added Water per cent.	Remarks.
1939	3·25	6·58	17·7	Fined £3 and £1-3-0 costs.
1940	3·33	6·58	17·7	Fined £3 and £1-3-0 costs.
1392	3·65	7·80	2·5	—

The statutory limit for non-fatty solids is 8.0 per cent.

GOAT'S MILK DEFICIENT IN MILK FAT.

Lab. No.	Milk fat per cent.	Fat deficiency per cent.	Remarks.
913	3·20	8·5	Declared skimmed.
947	3·00	14·2	do. do.
910	3·30	5·7	do. do.
908	3·30	5·7	do. do.
925	3·35	4·4	do. do.
927	2·90	17·1	do. do.

OTHER SAMPLES.

Lab. No.	Article	Irregularity	Remarks.
1471	Tinct. Iodine	11·3% excess iodine	In excess of B.P. Requirements.
1504	Wheat Flour	Acarus farinae present	Condemned.

AVERAGE COMPOSITION OF MILKS.

The average composition of Goat's Milk was :—
Milk fat—4.34 per cent.
Non-fatty solids—8.91 per cent.
The average composition of Cow's Milk was :—
Milk fat—4.34 per cent.
Non-fatty solids—8.70 per cent.

DRUGS.

All of the drug samples purchased from the pharmacists in Gibraltar were genuine with the exception of one sample of tincture of iodine. This sample contained iodine much in excess of the genuine article.

SPIRITS.

Of the twenty one samples received all contained the necessary proportion of alcohol and were found in other respects to be genuine.

OLIVE OIL.

Of the fourteen samples of olive oil examined all were found to be of good quality, with low acid values.

GOATS' BOILED MILK.

It is satisfactory to report that no sample of imported goat's milk was found to be unboiled or contained a proportion of unboiled milk.

Of the seventy-six samples of goats' milk analysed, six or 8 per cent. were found to be deficient in milk-fat as the result of skimming by the vendor. Milk samples deficient in fat the previous year amounted to 21 per cent., so it would appear that the vendors are taking more care not to deprive this article of diet of its valuable fat when clearing it of scum which is likely to form on the surface after boiling. No legal proceedings are taken when the vendor declares at the time of purchase that the milk has been skimmed. In my opinion the practice of robbing milk of its natural fat to such an extent that it is sold below the statutory limit is most unsatisfactory and should be prohibited.

AERATED WATERS.

Soda water, lemonade, ginger ale, cider and the like, were submitted for examination for lead contamination. These samples taken from the factories of Gibraltar remain free from this objectionable impurity.

GRAPES.

Three samples of grapes were purchased from shops to determine the possible presence of arsenic. Arsenical preparations are sometimes used as insecticide sprays on the vines. No trace of arsenic was, however detected in either sample.

CONDENSED MILK.

The following results of analysis of a condensed milk are of interest in so far that they do not agree with the statement on the label which declared it to be "full cream."

ANALYSIS.

Water.	*Ash.*	*Proteids.*	*Milk Sugar.*	*Fat.*	*Cane Sugar.*
24·03	1·58	8·84	11·46	8·59	45·5

For Great Britain the Condensed Milk Regulations, 1923, demand 9.0 per cent. of milk fat and 31.0 per cent. of all milk solids. The above sample shows milk-fat and all milk solids to be somewhat deficient. Three separate tins of the same consignment were tested especially for fat content with these results :—

Tin No. 1—8.59 per cent. of fat.
Tin No. 2—8.55 per cent. of fat.
Tin No. 3—8.41 per cent. of fat.

The deficiency was therefore general throughout the consignment.

STERILISED MILK.

Again this year bacteriological investigations were carried out to determine whether milk imported from Spain is effectively sterilised before being sold to the public. Eighteen milks were tested. By sterilising imported milk the Gibraltar public is safeguarded against milk-borne diseases, i.e., tuberculosis, enteric and undulant fevers, etc. Milk soon after it has been obtained from the animal is teeming with micro-organisms—not necessarily dangerous ones. Of the harmful organisms, Brucella melitensis (undulant fever-goats) and the tubercle bacillus and streptococci (cows) may be present in the milk when in the udder of diseased animals. Other pathogenic bacilli (enteric, etc.) may gain entrance to milk after or at the time of milking. To kill off any disease-producing germ which may possibly be present is the reason why, by law, imported milk is boiled or sterilised. It is essential, therefore, if outbreaks of disease are to be avoided that those in control of the health of the community should assure themselves that sterilisation is adequately carried out. For this purpose the Medical Officer of Health has arranged that periodic bacteriological examinations be undertaken as a safeguard and control. Two methods of sterilising milk are practised, (i) in sealed bottles; (ii) in open cauldrons in which milk is brought to the boil (goats). The sealed bottles of sterilised milk are sold unopened. In the case of "loose" milk there is some bacterial contamination with ladles, dust, etc.,

but the risk of entry of harmful organisms in this way may be considered negligible once the milk has been boiled in Gibraltar. For record purposes, results of these examinations are given in tabulated form. It will be seen that two cases of goat's milk were inefficiently sterilised.

Sample	B. Coli in 30 c.c.	Streptococci in 30 c.c.	Enteriditis change in 30 c c.	Total organisms at 37 C per c.c.
1. Cow's (bottle) ...	None	None	None	None
2. Goat's (bottle) ...	None	None	None	280
3. Goat's (caldron) .	None	None	None	14
4. Goat's (caldron ...	None	None	None	None
5. Goat's (bottle) ...	None	None	None	None
6. Cow's (bottle) ...	None	None	None	118
7. Goat's (caldron)...	None	None	None	70
8. Cow's (bottle) ...	None	None	None	150
9. Goat's (bottle) .	None	None	None	None
10. Goat's (caldron)...	None	None	None	2768
11. Goat's (caldron)...	None	None	None	None
12. Goat's (caldron)...	None	None	None	None
13. Cow's (bottle) ...	None	None	None	None
14. Goat's (bottle) ...	None	None	None	6
15. Goat's (caldron) .	Present in 0·1 c.c.	None	None	3200
16. Cow's (bottle) ...	None	None	None	None
17. Goat's (bottle) ...	None	None	None	8
18. Goat's (caldron)...	Present in 0·1 c.c.	None	None	7168

NITRATE TEST FOR ADULTERATED MILKS.

Considerable success is reported by public analysts in Great Britain in finding a confirmatory test to prove the presence of added water to milk by the detection of Nitrates. It is claimed that the very small quantity of Nitrates occurring normally in natural waters can be detected after the water has been added to milk as an adulterant.

Milk as taken from the cow and goat contains no trace of Nitrates, and this also applies to the milk of cows which have been experimentally dosed with Nitre over long periods. Difficulty has been experienced in convincing magistrates when by the results of the usual chemical analyses water has been found to have been added in small amounts. The finding of Nitrates in such cases would be of value as corroborative evidence.

In investigating the tests under local conditions it was found that Gibraltar drinking waters, i.e., the general supply and tank waters of private houses contained no nitrates, but that all of the underground streams (Gibraltar) and drinking waters procured from La Linea and surrounding district contained it to a marked

degree. Conclusions drawn, therefore are (i) the Nitrate test cannot be applied if milks are adulterated in Gibraltar; (ii) if water is added to milk before importation it would be possible in the majority of cases to prove this by the presence of Nitrates.

PART II.—MISCELLANEOUS.

Samples under this heading which were analysed during the year numbered 101, as follows :—

5 samples of Alcohol to determine alcoholic strength.
21 samples of sugar to determine if damaged by sea water and extent.
1 deposit in sewer to find nature of.
1 sample of bleaching powder for percentage of available chlorine.
1 soda water cap for presence of lead.
2 samples of ice—bacteriological examination for purity.
2 potato sacking to determine if damaged by sea water and extent.
2 carboard boxes to determine if damaged by sea water and extent.
2 bags to determine if damaged by sea water and extent.
2 samples of sand to determine if suitable for building purposes.
1 bottle of medicine for analysis.
3 trousers
1 pyjamas
1 shirt
} examination of stains of pus.
3 Condensed milks for chemical analysis.
1 encrustation from boiler for chemical analysis.
1 box of 21 powders to find exact weight of each.
15 bottles to find exact capacity of each.
2 anaesthetic ether—examination for purity.
2 samples of gum for presence of lead.
2 scales with weights—checked for accuracy.
5 first field dressings—bacteriological for sterility.
3 waters for presence of metallic poisons.
1 sausage—bacteriological examination for food poisoning organisms.
3 samples of coal—chemical analysis and calorific power.
1 lead pipe—nature of corrosion.
1 sample of olive oil—chemical analysis.
2 sugars—chemical analysis.
1 sample of Rum—for analysis.

1 sample of dried milk—for analysis.
1 file
a flat iron
a pair brown shoes } examination for presence of blood.
1 tea sediment from dixie—metallic poisons.
3 waters—metallic poisons.
1 gastric contents—for presence of morphine.
2 litres of standard sulphuric acid prepared.
3 Winchester quarts of glucose saline prepared.

TOXICOLOGICAL AND FORENSIC.

A—Various articles submitted by the Chief of Police.
(i) Piece of iron—No trace of blood was detected and the white particles were found to be paint not bone.
(ii) Piece of black silk scarf—Blood not detected. The red stains were of paint.
(iii) A flat iron—Blood not found.
(iv) Apron—Blood not found; the red stains were due to paint.
(v) Painter's trousers—Six stains examined but blood not detected.
(vi) A large file—Small amount of material which was picked out from behind some of the rasps gave the characteristic reactions for blood.
(vii) Brown shoes—Blood not detected.

B—Various articles of clothing for evidence of pus in certain stains. Pus cells were not distinguishable but as the stains were some six months old it is possible disintegration had taken place. The stains contained nucleo protein which points strongly to there being pus in origin.

C—Gastric contents of man: Group reactions for alkaloids were positive and morphine was identified—minute quantities only present.

FOOD POISONING.

Food poisoning was suspected in August as the cause of mild symptoms amongst a few men at a mess. The matter was investigated and resulted in the bacteriological examination of (i) eight stools for food poisoning organisms; (ii) three specimens of blood for evidence of agglutinins of the Salmonella group; (iii) three blood cultures for Salmonella group; (iv) three samples of drinking water for the mineral poisons lead, copper, tin, arsenic; (v) sediment from tea dixie for mineral poisons; and (vi) sausage for food poisoning organisms. No evidence of food poisoning either bacteriological or by chemical analysis was obtained. No common article of food of which all cases partook could be traced.

PURITY OF ICE.

Two samples of ice were examined bacteriologically to determine if suitable for domestic use. One sample was imported and the other was manufactured in Gibraltar. The results are given below.

	Gibraltar Ice.	*Imported Ice.*
B Coli	Not in 30 c c.	Present in 10 c.c.
Streptococci	Not in 30 c.c.	Present in 5 c.c.
Enteriditis change	Not in 30 c c	Not in 30 c.c
Organisms at 37° C.	22	530
Organisms at 22° C.	40	1,360
Chlorine (Parts per 100,000)	2·1	6 6

From these results it is seen that the ice sample manufactured in Gibraltar is quite safe for domestic use while the imported sample shows evidence of contamination. In view of the fact that the source of this water is not known, the ice from which it is made should be considered unfit for dietetic purposes.

PART III.—BACTERIOLOGICAL—CHEMICAL PATHOLOGY AND PUBLIC HEALTH WORK.

	No. of Specimens.
Drinking Waters and others	293
Swabs—B. Diphtheriæ, Vincent's organisms, etc.	605
Sputa—Tubercle bacillus and other causative organisms	224
Bloods—Widal T.A.B. and Undulant Fever	240
Bloods—Goat's, Widal for Undulant Fever	139
Bloods—Counts, Hb, red and white cells and differential	35
Bloods—Smears for Malaria, piroplasmosis, Anthrax etc.	43
Bloods—for Cultures	32
Bloods—Sugar estimations, including sugar tolerance tests	150
Bloods—Urea estimations, including urea concentration factor	26
Bloods—Wassermann reaction	442
Bloods—Grouping	7
Naso-pharyngeal swabs—Meningococcus culturally	43
Cerebro-spinal fluids—Cytology, globulin, sugar, etc., Micro-organisms and Wassermann	23
Pleural, Hydrocele, Peritoneal fluids—Cytology, organisms	9

Urines—General analysis, sediment and bacteriological	1 308
Urines—Urea estimations, including urea concentration tests	53
Pus—Gonococcus and other causative organisms	52
Faeces—Bacteriological for enteric, dysentery and food poisoning organisms; Helminths	170
Breast Milks—Chemical analysis	11
Serum for V.S.—for Tr. Pallidum (dark ground)	31
Rats—Examination for plague	75
Histological—Cutting, fixing and staining sections	8
Gastric Contents—including fractional meals	110
Guineapig inoculations, virulence tests K.L.B. and T.B.	12
Autogenous Vaccines—from lab.-grown cultures	26
Stock vaccines—diluted	22
*Miscellaneous	6
Total	4,195

*comprise ringworm hair, tapeworm, skin scrapings, etc.

DISTILLED WATER.

Three hundred and eighteen gallons were made and sold.

ANIMAL INOCULATIONS.

The inoculation of guineapigs to determine the presence or virulence of organisms was conducted on twelve cases. Eleven of these were B. Diphtheriæ isolated from throats of patients or contacts. Nine were reported to be fully virulent and of these, eight were new cases of diphtheria and one was a contact swab.

The inoculation of one sputum to determine the presence of Tubercle bacillus was also done. This was negative.

BLOOD GROUPING.

To provide ready donors in the event of urgent blood transfusions, seven volunteers were tested at these laboratories. Four of these were found to belong to Group IV., and three to Group II.

TUBERCLE BACILLUS.

Varied specimens were submitted for detection of Tubercle bacilli.

Sputum—244 specimens were examined and tubercle bacillus found in 34.

Pus—Tubercle bacillus found in one specimen.

Faeces—Tubercle bacillus present in one specimen.

ANTHRAX.

Three blood smears of animals were examined, but anthrax was not found.

VINCENT'S ANGINA.

Vincent's organisms were found in the direct smear examination of one swab. They were present in four swabs the previous year.

B. DIPHTHERIA.

In the examination of throat swabs for B. Diphtheriæ, only the Klebs-Loeffler organism was considered, the Hoffmann bacillus being disregarded as not virulent. Altogether 605 swabs were examined, and 15 new cases of diphtheria were diagnosed.

Contact Swabs—In connection with the above new cases of diphtheria, 246 contact swabs were taken and examined. Of these, 241 were negative, 4 were positive, and the throat swab of one cat was positive—a percentage of 1.6.

MALARIA.

The blood of 43 patients was examined for malaria parasites of which four were positive.

DYSENTERY.

Many stools were bacteriologically examined to determine the causative organism. Of the true dysentery cases showing blood and pus in the faeces, B. Dysenteriæ Flexner was isolated from one. The Amœbic form of dysentery was not met with during the year.

ENTERIC FEVER.

B. Paratyphosus "B" was obtained from one stool and one urine.

The positive serological test for B. Typhosus numbered 14; for B. Paratyphosus "A" 2; and for B. Paratyphosus "B" 20.

UNDULANT FEVER.

Four specimens of blood showed positive agglutination for this disease.

SUSPECTED CASE OF MENINGOCOCCUS MENINGITIS.

The laboratory investigation of the patient resulted in:

(1) Two post-nasal swabs—no meningococci found.

(2) Cerebro-Spinal fluid—No meningococci. There was much fluid and globulin was slightly increased. Sugar—normal. Cells—3 per c.m.m.

(3) Contact swabs numbering 38, all with negative results for the meningococcus.

BLOOD SUGAR ESTIMATIONS AND SUGAR TOLERANCE TESTS.

During the year, 150 estimations of blood sugar were done. These were individual tests made on diabetics for guidance in insulin treatment. Four complete sugar tolerance tests were also undertaken for the diagnosis of diabetes. These results are reported in detail.

Patient	*Blood Sugar before giving 50 gms. glucose*	*Blood Sugar (%) after taking sugar.*				
		½ hr.	1 hr.	1½ hrs.	2 hrs.	2½ hrs.
1	0·092	0·201	0·206	0·143	0·088	—
2	0·140	0·234	0·365	0·382	0·369	0·307
3	0·146	0·231	0·281	0·277	0·235	0·203
4	0·063	0·125	0·218	0·231	0·206	0·131

Patient 1—Showed sugar in urine.

Patient 2 3, 4—The same person with an interval of approximately one month between the tests. First test showed sugar and acetone in urine; second test sugar but no acetone in urine; third test contained no sugar in urine.

While patient 1 shows little indication of defective sugar storage, Patient 2's inability to store sugar was very marked, but in subsequent tests after treatment there was a progressive improvement.

CEREBRO-SPINAL FLUIDS.

Cytology, globulin, sugar test, and bacteriological examinations were systematically carried out on 23 specimens received. When specially indicated the amounts of sugar, urea and sodium chloride were determined and the Wassermann reaction done.

Results of findings were as follows :—

Normal fluids—Nine.
Meningococcus—None.
Streptococcus—One.
Tubercle B.—None.
Fluids pointing to tubercular meningitis but organism not found—Three.
Wassermann negative—Two.
Fluids obviously pathogenic but without organisms—Four.
Encephalitis Lethargica—Four (all same patient with marked meningeal symptoms and fluid practically normal except for quantity).

PLEURAL FLUIDS.

Cytology and bacteriological examinations were conducted on the nine specimens submitted.

Streptococci present in one.
No micro-organisms were found in four though polymorphs were numerous.
Four were probably tubercular indicated by presence of numerous lymphocytes.

GASTRIC DISORDERS AND FRACTIONAL TEST MEALS.

The analysis of gastric contents in the laboratory diagnosis of gastric ulcer, carcinoma, hypersecretion, etc., were undertaken for 9 patients representing 110 specimens of stomach contents. These laboratory examinations entailed the estimation of free HC 1 and total acidity, and the detection of blood, pus, bile, starch and mucus in each specimen before and every fifteen minutes after taking the test meal. In each case a curve is plotted showing the percentages of free HC 1 and total acidity in relation to the 15 minutes intervals until the stomach has emptied.

RENAL EFFICIENCY TESTS.

In connection with kidney diseases the degree of efficiency of these organs in eliminating the waste nitrogenous products (urea) of the body is determined in two ways, (i) Urea concentration factor; (ii) Urea concentration test.

Urea concentration factor :—Estimations of blood urea and urine urea are done at the same time. The ratio of one to the other gives the number of times the kidneys are able to concentrate the blood urea in the urine. Tests normal factor is about 70 times or even more. Tests were conducted on 24 patients.

Some of the results obtained showing the difference between diseased kidneys and efficient ones are of interest.

Case.	*Blood Urea (mgms. in 100 c.c.)*	*Urine Urea (mgms. in 100 c.c.)*	*Urea concentration factor (Mclean).*
1	65	900	13·8—Bad
2	295	1100	3·7—Very bad
3	189	1000	5·2—Very bad
4	72·5	2600	35·8—Medium
5	19	2350	123—Very good
6	16	1100	68—Good

Urea Concentration tests :—The amount of urea in urine is ascertained one hour and two hours after the patient has taken 15 gms. of urea dissolved in water. In normal conditions 2.5 per cent. or over of urea is to be expected. Some variations obtained on fourteen patients are given.

	Case 1.	Case 2.	Case 3.	Case 4.
Urea in urine 1st hour	1·8	4·6	1·6	2·9
Urea in urine 2nd hour	0·9	4·6	2·6	2·7
	poor	very good	good	good

DRINKING WATERS AND OTHERS.

These include samples taken from Moorish Castle, 54; Governor's Parade Water Fountain, 11; Brackish Water, 11; Sea Water, 11; Underground tanks and wells, 173; North Front wells, 11; Watering Jetty, 11; and Catalan Bay Water, 16.

Tables showing the monthly analyses of Gibraltar Drinking Water, North Front wells, Watering Jetty, and Catalan Bay water follow this report.

DISTRIBUTION OF SPECIMENS.

For record purposes all specimens and samples examined during the year can be allocated as follows :—

From Military Authorities—697.
From Naval Authorities—185.
From Navy but received from Military Hospital—133.
From Colonial Hospital—835.
From Spain—78.
From Civil, which includes the general public and City Council—2591.
Total—4519.

EQUIPMENT.

A separate office and library was provided for the City Analyst, and a fume cupboard, which was badly needed, was placed in the laboratory.

NOTIFIABLE DISEASES.

The table given below shows the number and nature of specimens examined and the results obtained in connection with notifiable diseases venereal diseases, etc.

	Total.	*Positive,*
Blood, Wassermann	442	91
Pus for Gonococci	52	12
Sputum for Tubercle bacilli	224	35
Swabs for B. Diphtheria	605	2
„ „ Vincent's organisms		
Widal reaction for Enteric, Melitensis:		
B. Typhosus		14
B. Paratyphosus 'A'		2
B. Paratyphosus 'B'	240	20
Br. Melitensis		4
Blood for Malaria parasites	43	4
Serum for Tr. Pallidum	31	9
Faeces for Enteric and Dysentery organisms:—		
B. Typhosus		—
B. Paratyphosus 'A'		—
B. Paratyphosus 'B'	117	1
B. Dysenteriæ Flexner		1
Urine for B. Paratyphosus 'B'	4	1

Part IV.—Testing of Ships for Inflammable Gas.

The City Analyst is entrusted with the testing of compartments of oil carrying ships for dangerous gases. This class of work was first undertaken for Naval Authorities in 1928.

Gas free certificates are required before ships of this class enter dry dock for repairs.

(i) Tanker—4,700 tons gross; all tanks, cofferdams, summer tanks and pump room were reported negative.

(ii) Tanker—8,000 tons; No. 5 tank central starboard side reported free.

(iii) Tanker—Deep tank both sides, reported free.

(iv) Barge—700 tons; all tanks examined, reported free.

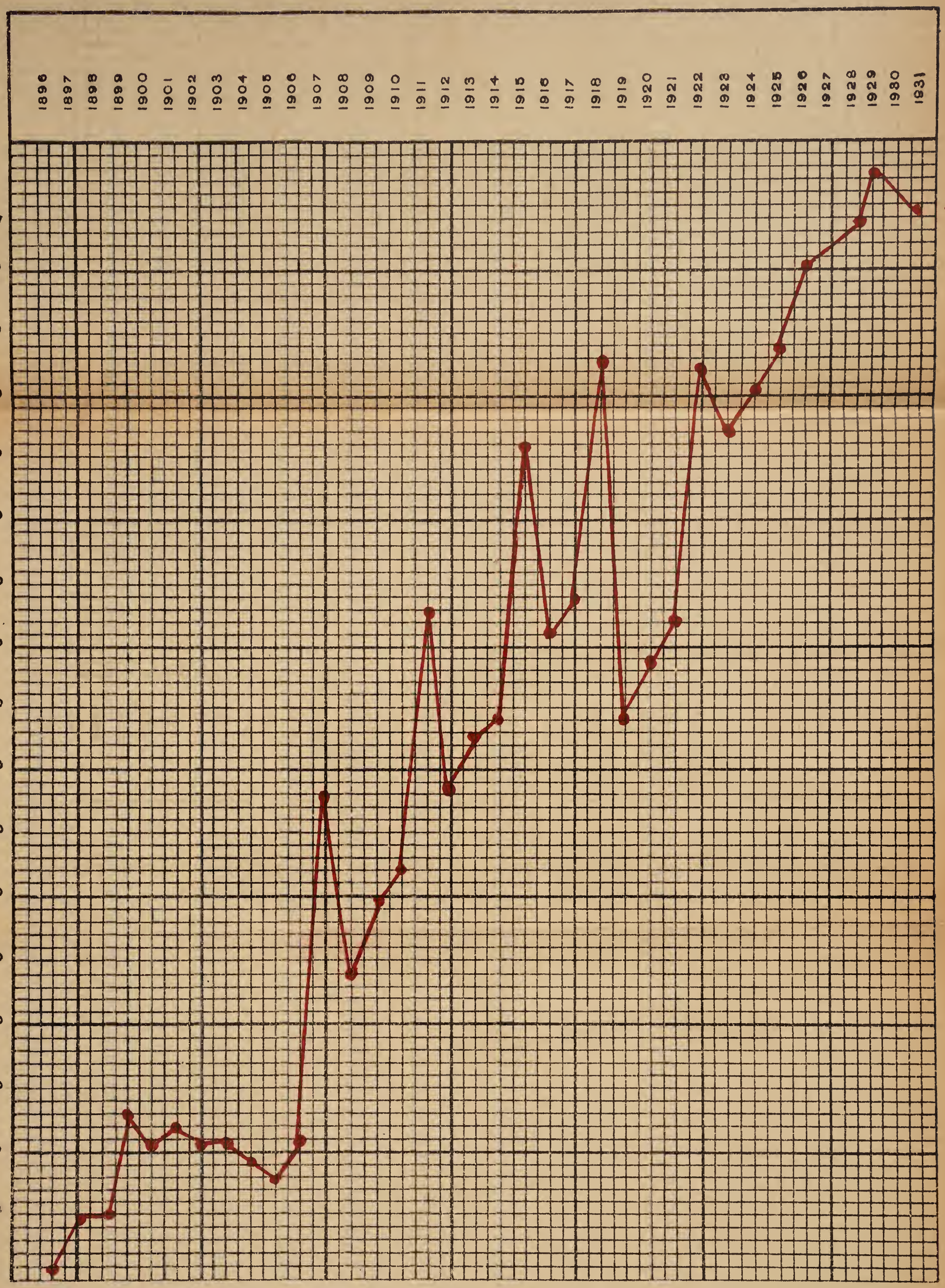
(v) Tanker—9 tanks, 5 summer tanks and 2 cofferdams examined and found free.

(vi) Tanker—8 tanks, 4 summer tanks and after cofferdam, all found free of inflammable gas.

A. Geo. Holborow, F.I.C.,
City Analyst and Bacteriologist,
Gibraltar.

CITY COUNCIL OF GIBRALTAR.

CHART SHOWING NUMBER OF SAMPLES ANALYSED PER ANNUM SINCE THE YEAR 1896.



DISTRIBUTION OF SPECIMENS.

Nature of Specimen.	Civil.	Military.	Navy Received from Military Hospital.	Navy.	Spain.	Colonial Hospital.	Total.
Blood, Wassermann	166	28	7	85	15	141	442
Blood, Count	12	...	...	3	...	20	35
Blood, Culture	1	12	15	...	...	4	32
Blood, Sugar	27	19	...	...	3	101	150
Blood, Urea	14	...	...	...	1	11	26
Blood, Widal	157	28	20	...	6	29	240
Blood, Malaria	18	6	6	...	...	13	43
Blood, Grouping...	...	7	...	...	...	...	7
Goats' blood for Mic. Melitensis	139	...	...	...	...	...	139
Swabs for K.L.B., &c. ...	239	258	13	11	...	84	605
Sputum	85	29	28	2	1	79	224
Urine	944	46	10	5	42	261	1,308
Fæces	38	38	11	...	1	29	117
Cerebro-Spinal Fluid	2	8	3	...	...	10	23
Pus—Gonococci, &c.	28	5	1	1	...	17	52
Serum—Tr. Pallidum	3	...	1	27	...	...	31
Human Milk	11	...	...	...	...	...	11
Histological	4	3	...	...	...	1	8
Gastric contents	12	84	13	...	...	1	110
Rats for Plague	75	...	...	...	...	...	75
Food and Drugs Act	217	...	...	...	...	...	217
Other Food, Drinks, &c. ...	38	...	...	2	1	...	41
Waters	195	98	...	3	2	...	298
Pleural fluids	3	2	...	...	...	4	9
Auto-Vaccines	13	6	2	...	...	5	26
Stock Vaccines	15	...	...	...	5	2	22
Guineapig Inoculation ...	6	6	...	...	...	...	12
Urea concentration test ...	38	...	...	...	...	15	53
Coal	3	...	...	...	...	...	3
Naso-pharyngeal Swabs ...	...	2	3	38	...	...	43
Miscellaneous	88	12	...	8	1	8	117
Total	2,591	697	133	185	78	835	4,519

RESULTS OF MONTHLY ANALYSES OF WELL WATER.

SAMPLES TAKEN AT NO. 5 WELL, NORTH FRONT.

Date	Chlorine (parts per 100,000).	B. Coli
Jan. 13	6·5	B. Coli present in 5 c.c.
Mar. 23	6·4	,, ,, 5 c.c.
Apr. 30	5·0	,, not found in 25 c.c.
May 30	12·5	,, present in 1 c.c.
Jun. 30	20	,, ,, 2 c.c.
Jul. 31	25	,, ,, 10 c.c.
Aug. 26	40·5	,, not found in 25 c.c.
Sept. 25	49·2	,, present in 5 c.c.
Oct. 29	49	,, ,, 2 c.c.
Dec. 2	68	,, not found in 25 c.c.
,, 30	29·6	,, present in 5 c.c.
Average ...	28·3	—

MONTHLY ANALYSES OF GIBRALTAR DRINKING WATER—1931.

Date.	Chlorine (parts per 100,000).	B. Coli.
Jan. 14	1·6	B. Coli not found in 25 c.c.
Mar. 23	2	,, present in 5 c.c.
Apr. 30	2·2	,, ,, 10 c.c.
May 30	2·2	,, not found in 25 c.c.
Jun. 30	2·1	,, ,, ,,
Jul. 31	2·0	,, ,, ,,
Aug. 26	2	,, present in 10 c.c.
Sep. 25	2	,, ,, 5 c.c.
Oct. 29	5	,, not found in 25 c.c.
Dec. 2	3·6	,, ,, ,,
,, 30	5·2	,, ,, ,,
Average ...	2·7	

RESULT OF MONTHLY ANALYSES OF SEA WATER.

Date	Chlorine (parts per 100,000).	B. Coli
Jan. 14	2050	Present in 1 c.c.
Mar. 23	1020	,, ,, 0·1 c.c.
Apr. 30	2160	,, ,, 2 c.c.
May 30	2080	,, , 2 c.c.
Jun 30	2040	, ,, 1 c.c.
Jul. 31	2000	,, ,, 2 c.c.
Aug. 26	2020	,, ,, 2 c.c.
Sep. 25	2100	,, ,, 2 c.c.
Oct. 29	1860	,, ,, 2 c.c.
Dec. 2	1080	,, ,, 5 c.c.
,, 30	2070	,, ,, 5 c.c.
Average ..	1860	

RESULT OF ANALYSES OF BOILER WATER.

SAMPLES TAKEN AT WATERING JETTY.

Date	Chlorine (parts per 100,000).	B. Coli
Jan. 13	32·5	Present in 2 c.c.
Mar. 23	26·8	, ,, 1 c.c.
Apr. 30	24·3	,, ,, 5 c.c.
May 30	27	,, ,, 2 c.c.
Jun. 30	25	,, ,, 1 c.c.
Jul. 31	25	,, ,, 0·1 c.c.
Aug. 26	45	,, ,, 5 c.c.
Sep. 25	19·6	,, ,, 2 c.c.
Oct. 29	22	,, ,, 2 c.c.
Dec. 2	22·5	not found in 25 c.c.
,, 30	16·6	,, ,, 25 c.c.
Average ...	26	

RESULTS OF MONTHLY ANALYSES OF BRACKISH WATER.

SAMPLES OBTAINED FROM MAIN IN GOVERNOR'S STREET.

Date	Chlorine (parts per 100,000).	B. Coli
Jan. 14	920	Present in 0·1 c.c.
Mar. 23	840	,, ,, 0·1 c.c.
Apr. 30	860	,, ,, 2 c.c.
May 30	1340	,, ,, 2 c.c.
Jun. 30	810	,, ,, 1 c.c.
Jul. 31	830	,, ,, ½ c.c.
Aug. 26	890	,, ,, 2 c.c.
Sep. 25	820	,, ,, 1 c.c.
Oct. 29	690	,, ,, 1 c.c.
Dec. 2	650	,, ,, 5 c.c.
,, 30	840	,, ,, 5 c.c.
Average ...	862·7	

SANITARY CIRCUMSTANCES OF THE DISTRICT.

Much of the information given in this section of the report has been kindly supplied by Mr. W. H. Pearce, M.Inst.C.E., F.S.I., M.Inst.W.E., City and Water Engineer.

WATER SUPPLY.

Three classes of water are supplied by the City Council of Gibraltar, viz.: (*a*) Potable Water; (*b*) Brackish Water; and (*c*) Boiler Water.

(*a*) POTABLE WATER.

This water is caught directly from the rainfall upon specially prepared catchment areas some 35 acres in extent and stored in 5 large reservoirs constructed in excavations in the heart of the Rock. The total storage capacity is over 8 million gallons.

A system of pipes conveys the water from the reservoirs to the houses, wharves and public points of supply. During the year 1931, the following works of improvement were effected to the Potable Water Works:—

(*a*) The old and defective supply main along Town Range was taken up and replaced by a new main of larger capacity.

(*b*) An additional fountain or supply point was erected at Chicardo's Passage.

(*c*) The excavation in the rock for the construction of an additional one million gallon storage reservoir was continued. The excavation will be completed in readiness to commence the building of walls, etc., in 1932.

(*d*) Extensive repairs were effected to the concrete filling of the rock crevices in the natural collecting areas on the western side of the Rock.

(*e*) A further section of the Eastern Catchment Area which had been attacked by the white ant was bared the defective framework renewed with teak timbers and the corrugated iron sheets replaced or renewed.

The quantity of water collected in the Council's Potable Water Reservoirs during 1931, was 12 608,298 gallons.

In addition, an estimated quantity of 1,977,688 gallons was run into the Brackish Water Reservoirs and to waste due to lack of storage capacity in the Potable Water Reservoirs.

During the year the supply was as follows:—

To the Shipping .....1,057 550 gallons.
To the Public .....10,952,394 gallons.

(*b*) BRACKISH WATER.

This water is somewhat saline, the amount of salinity varying with the seasons, and is used for baths, fire fighting, road watering and general sanitary purposes. It is obtained from a number of wells situated at North Front from which it is elevated by pumping machinery to several service reservoirs situated in various parts of the City.

An intercommunicating system of distributing pipes conveys the water by gravitation to every house and the supply is constant.

The Council also pumps brackish water for War Department purposes to reservoirs near the top of the Rock approximately 1,390 feet above sea level.

During the year 1931, a new pumping station was erected at North Front including a duplicate set of pumps and motors, new suction mains, etc., at a cost of £5,300 and a considerable improvement to the service has been effected thereby.

A new trunk supply main was laid from Engineer Road Reservoir and over ¾ mile of old and defective mains in the South District were relaid with larger pipes.

In the Central District the old water mains in Chicardo's Passage, Abecasis' Passage and Hospital Ramp were renewed and several interconnections and improvements effected.

The quantity of brackish water pumped and distributed during 1931 amounted to 262,690,500 gallons.

(*c*) BOILER WATER.

This water is pumped from shallow wells at North Front to water towers from which it is supplied to the Shipping for non-dietetic purposes.

During the year 1931, the quantity thus supplied was 789,900 gallons.

SEWERAGE AND DRAINAGE.

The whole of the sewage of Gibraltar eventually discharges at Europa Point where the prevailing strong currents speedily carry it out to sea. The main gravitating trunk sewer is about 2½ miles in length, and its size at the outfall is 6' 0'' x 4' 6.'' It takes both sewage and storm water.

The sewage from the low lying Northern District is lifted to the main gravitating sewer by a series of Ejectors. During the year 1931, the quantity of sewage and storm water so lifted amounted to 68,461,488 gallons.

Storm overflows discharging into the sea en route to the main outfall are provided on the line of the main sewer at such levels that they only come into operation in times of heavy floods when the sewer is running at nearly full capacity. Certain districts are also provided with independent storm water relief drains.

The rate of run off is abnormal and though practically no flooding takes place now the margin of safety is still small.

Minor improvements have been effected during 1931 and further improvements including the enlargement of a portion of the main sewer at present overcharged by the flow of converging tributary sewers, will be taken in hand during 1932.

SCAVENGING AND REFUSE DISPOSAL.

Household refuse is collected once a day in winter and twice a day in summer, and conveyed for incineration to the Council's Destructor in petrol driven Freighter cars. The Refuse Destructor is situated away from the Town at North Front and is an efficient modern installation comprising two complete duplicate continuous grate incinerating units with subsidiary plant, buildings, etc. The average daily collection and disposal of refuse amounted to about 18 tons and the service and plant has been well maintained.

Steam generated in incinerating the refuse is utilized for disinfecting purposes at the Council's Disinfecting Station adjacent to the Destructor Buildings.

HIGHWAYS.

All the Public Highways in Gibraltar are provided with non-absorbent waterproof surfaces and are well cared for and maintained.

The most noteworthy improvement effected during 1931 was the provision of a bus centre including passengers' shelters, public lavatory, etc., at the entrance to the Town on the site of the old Poultry Market which was demolished.

Street sweeping and cleansing is well organised, the whole city being divided into sweeping districts and a sweeper with orderly hand cart, etc., is detailed for each section. Street orderly bins are provided at strategic points and these are regularly emptied by Freighter dust carts.

Travelling gangs wash down the streets and public steps with brackish water from watering hydrants by means of hoses and spreaders, and occasionally disinfectant is added.

PUBLIC BATHS.

The Council maintains a bathing establishment centrally situated in Irish Town containing hot and cold slipper baths, douches, etc.

A fine sea bathing pavilion which is extremely popular during the bathing season is also maintained, and there are in addition two small second class bathing establishments.

Further additions to the amenities of the Sea Bathing Pavilion such as the provision of sun bathing platforms diving raft, shoot, etc., were made during 1931, and additional cubicles will be constructed in 1932.

SANITARY CONVENIENCES.

All public sanitary conveniences are fitted on modern lines and their number was increased in 1931 by the construction of an additional one for men and women at the New Bus Centre at the entrance to the Town.

HOUSING.

The systematic inspection of houses which was started in 1925, was completed early in 1931. Elaborate records of all buildings in Gibraltar, which include the measurements of every room are now available. These are entered up in special books from which every detail regarding sanitary conditions, lavatory accommodation, etc., can be obtained.

The following gives a summary of work carried out and progress made :—

	Lower District	*Middle District*	*Upper District*	*South*
No. of houses inspected ...	204	241	214	96
No. of houses requiring general repairs and overhaul	39	53	83	30
Repairs completed	38	50	61	26
Outstanding	1	3	22	4

The majority of those outstanding are Crown Properties which are due for re-leasing.

No work of major importance has been carried out during the year in relation with the Progressive Housing Scheme, but a number of private houses have been entirely reconstructed and remodelled.

SUMMARY OF WORK DONE BY SANITARY INSPECTORS DURING THE YEAR 1931.

COMPLAINTS RECEIVED.

Written	5
Verbal	279

PREMISES INSPECTED.

General Inspection (systematic house-to-house)	18
Casual Inspection	52

NUISANCES FOUND.

Defective drains	120
Obstructed drains	278
Defective water closets	285
Defective water closet fittings	361
,, water fittings	278
,, rainwater pipes	98
,, eavesgutters	136
,, roofs	62
,, yard paving	32
Dampness	16
Premises dirty	101
Defective or no dustbin	218
Suspected pollution of water in underground tank	45
Underground tank not insect proof	12
Brackish water tank not insect proof	53
Brackish water running to waste	259
Other minor defects	1558

MISCELLANEOUS SERVICES.

Samples of food and drugs taken for analysis	206
Premises disinfected for infectious disease	132
Premises disinfected for vermin	15
Stables disinfected	1110
Articles disinfected at North Front Disinfecting Station	6416
Visits of enquiry re infectious disease	146
Cases removed in Ambulances:	
Local	45
Bay	47
Visits to Milk shops	340
Visits to Eating houses	335
Visits to Mineral Water factories	265
Visits to Common Lodging houses	4
Visits to premises on which notice for abatement of nuisances have been served and are re-visited for the purpose of ascertaining if requirements have been complied with	1755

MISCELLANEOUS SERVICES—(*Contd.*)

Notices served in accordance with "The Vaccination Ordinance, 1887"	314
Legal proceedings instituted	11
Street water fittings found defective	174
Defects found	3912
Defects remedied	3881
Pending on 31/12/1931	31

COMMON LODGING HOUSES.

There is only one Common Lodging House at present in Gibraltar.

Inspections have been carried out at intervals, and the conditions generally, found to be satisfactory.

LIST OF ORDINANCES, BYE LAWS AND REGULATIONS RELATING TO THE PUBLIC HEALTH ENACTED IN GIBRALTAR DURING 1931.

An Ordinance entitled "The Food and Drugs (Adulteration) Ordinance, 1931," was brought into force during the year. This Ordinance is modelled on the English "Food and Drugs (Adulteration) Act, 1928."

REPORT OF THE VETERINARY ADVISER.

The general health of all animals in the Colony remains good, and there have been no serious outbreaks of infectious or contagious disease during the year under review.

HORSES AND MULES.

Twenty-seven were imported by sea into the Colony during the year, and were examined on landing and found free from disease. Their countries of origin were:—

Malta	2
French Morocco	2
Tangier	12
England	8
Ceuta	3
Total	27

There were, in addition, a number of horses and mules imported by land from Spain, but no records are kept of these imports.

Horses examined prior to export and their destination were:—

Malta	5
England	6
Tangier	16
Total	27

One case of tetanus occurred in a horse probably due to imported peat moss which was used as bedding. There was no other case of contagious disease either in civilian or military animals.

CATTLE.

The numbers imported with their country of origin were:—

	Slaughter Cattle	*Milch Cows*	*Sheep*	*Pigs*
Spain	224	4	3,236	1,639
Morroco	2,144	10	10	—
Total...	2,368	14	3,246	1,639

These were examined on landing and generally, were in good health except for occasional cases of Foot and Mouth disease in the Moroccan cattle. These were, however, far less numerous than in recent years, the total cases of Foot and Mouth disease during the whole year amounted to

Cattle	56
Pigs	Nil

compared with 100 in 1930, and 1,198 in 1929.

There were no cases of Foot and Mouth disease in cattle or pigs from Spain.

Exports of cattle during the year were :—

Tangier ..... 11 Sheep

MILCH COWS AND GOATS.

All milch cows and goats were inspected during the year and were in good health and condition. All milch cows and bulls used for breeding were tested with tuberculin during the year, none re-acting.

It is proposed in future to carry out this procedure annually.

DOGS, CATS, &C.

There were no proved cases of rabies during the year and stringent regulations ar still in force, *i.e.* permanent muzzling and strict quarantine of imported dogs.

Post mortem examinations were made on 2 cats and 1 dog suspected to have died from rabies, and the brains sent to the Pasteur Institute, Tangier, for examination.

One dog and one cat were negative, and Negri bodies were found in the brain of the other cat, but the presence of rabies was not confirmed by animal inoculation

Details of dogs and cats undergoing isolation, etc., were :—

	Dogs.	*Cats.*
Numbers detained in isolation suspected as rabid	17	2
Number destroyed	45	211
Number imported without undergoing quarantine	23	
Number imported which underwent quarantine of six months or less	6	

C. H. S. TOWNSEND,

Major, R.A.V.C.

Veterinary Adviser to the City Council.

FOOD.

SUPERVISION OF FOOD SUPPLIES.

General supervision of restaurants, cafes, eating houses and places where food is sold, stored or prepared is carried out by the City Council Sanitary Inspectors, who also act as sampling officers. Details of the samples taken during the year are given in the City Analyst's section of this report.

The Itinerant Market Produce Vendors which came into force in 1930 and of which mention was made in last year's report has continued to work satisfactorily.

During the year an ordinance for the better control of food, entitled "The Food and Drugs (Adulteration) Ordinance, 1931," came into force. This ordinance supersedes sections 210 to 243 of "The Public Health Ordinance, 1907," and brings the Food and Drugs section of this ordinance into line with the latest English legislation.

The new Food and Drugs Ordinance also empowers the City Council to make bye laws for the better control of milk and certain other foods. These bye laws are at present under consideration.

GIBRALTAR MILK SUPPLY.

The majority of the fresh milk consumed in Gibraltar is imported from Spain. All imported milk is required to be boiled or sterilised before sale.

A small amount of fresh milk is produced locally. This may be sold raw.

The daily consumption of milk in Gibraltar is approximately :

COWS'

Locally produced	160 pints
Imported	200 pints

GOATS'

Locally produced	200 pints
Imported	3,500 pints
Total	4,060 pints

Condensed milk is used to the extent of 1,000 tins a day.

All goats in Gibraltar are examined serologically for undulant fever twice yearly, and all cows submitted to the Tuberculin test by the Veterinary Adviser to the Council.

All goats proved free from infection.

MILK SHOPS AND MILK VENDORS.

There are five registered milkshops in Gibraltar in addition to four milk stalls in the Markets. These were inspected at regular intervals and found satisfactory.

There were 46 milk vendors registered with the City Council during the year.

BAKEHOUSES.

There are eight bakehouses in Gibraltar. In addition, a certain amount of Spanish bread is imported. The importation of this bread is supervised by the Markets staff.

BUTCHER'S SHOPS.

There are four butcher's shops in Gibraltar for the sale of fresh meat. In addition, permission was granted during the year to one applicant to open a shop for the sale by retail of imported frozen meat only.

ICE CREAM.

Ice cream manufactured in four places in Gibraltar.

Before permission to sell ice cream is granted the applicant is required to satisfy the Council that the premises and methods of manufacture are suitable and hygienic.

MARKETS AND SLAUGHTERHOUSES.

The further improvements mentioned in the Annual Report for 1930 have been carried out during the year under review. These improvements consisted of :—

(*a*) Re-roofing and re-conditioning of the vegetable stalls.
(*b*) Re-painting of and repairs to Fish Market.
(*c*) Reconstruction of the Offal Stalls.
(*d*) Provision of a new fish cleaning bench with water supply, behind the Offal Stalls.
(*e*) Provision of a new, lighter and more commodious meat inspection room.

It was also found necessary to renew the Soyer's stoves in the Milk Market. These stoves were designed to burn coal and had rapidly become unserviceable owing to the use of wood or charcoal as fuel. They were replaced by copper boilers built with permanent brick fireplaces.

During the year three members of the Markets staff, viz. :— the Supervisor of Markets, the Inspector in charge of the Slaughterhouse and one Market Inspector obtained the certificate of the Royal Sanitary Institute as qualified Inspectors of Meat and other Foods.

The importation of frozen meat is still a marked feature, and the consumption of this class of meat continues to increase.

The amount of frozen meat imported during the past 3 years is shewn below :—

	Beef	*Mutton*	*Pork*
Year 1929	11,713	2,885	2,366
Year 1930	54,741	25,380	6,374
Year 1931	96,157	69,926	16,923

This meat is imported from Smithfield Market or direct from Australia and is, therefore, of uniformly excellent quality.

The Government slaughterhouse has been kept in good condition. The number of animals slaughtered during the year was as follows:—

Cattle	2,456
Sheep	3,224
Pigs	1,643

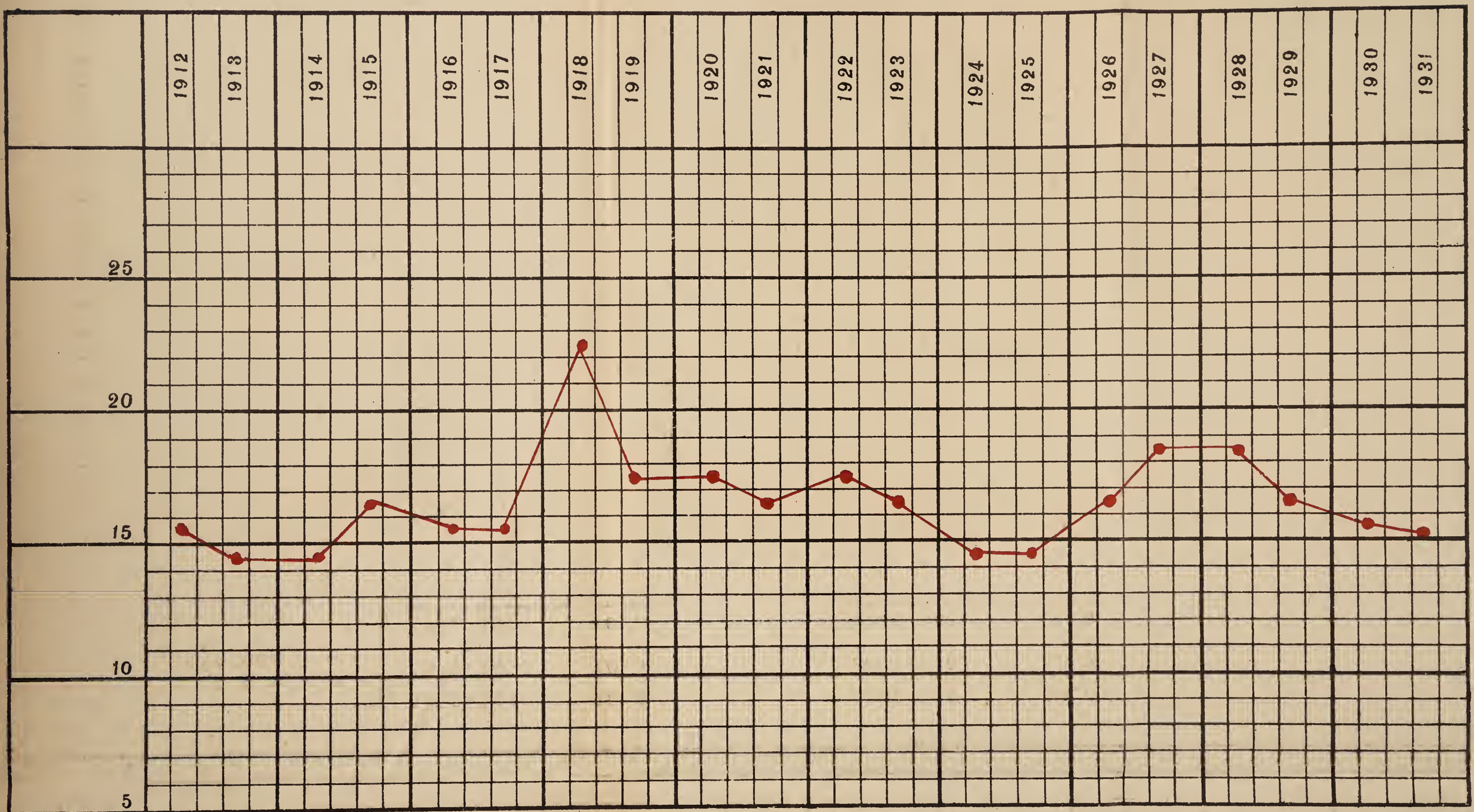
The following table shows the causes for which carcasses or portion of carcasses were condemned as unfit for human consumption and ordered to be destroyed:—

	Condemned	
	In whole	*In part*
CATTLE—		
Cysticercus Bovis	6	96
Tuberculosis	8	8
Pleurisy	—	3
Pericarditis	—	1
Jaundice	1	—
Abscess (localized)	—	2
Bruising	—	3
Emaciation	1	—
Discoloration (fat)	—	1
SHEEP—		
Emaciation	4	—
Fever	1	—
Abscess (localized)	—	1
Liver Flukes	—	6
Pneumonia (Septic)	3	—
Peritonitis	1	—
Pneumonia and Pleurisy	1	—
Pleurisy	—	2
Sarcocysts	—	4
Caseous Lymphadenitis	3	4
Uraemia	1	—
Insufficient Bleeding	1	—
PIGS—		
Tuberculosis	13	13
Pneumonia	—	1
Emaciation	1	—
Fever	1	—
Urticaria	—	9
Swine Fever	2	—
Peritonitis	2	—
Peritonitis (localized)	—	4
Pneumonia	1	—
Pleurisy	1	—
Abscess (localized)	—	1

AMOUNT OF SHIPPING ENTERING THE PORT OF GIBRALTAR DURING THE YEAR 1931.

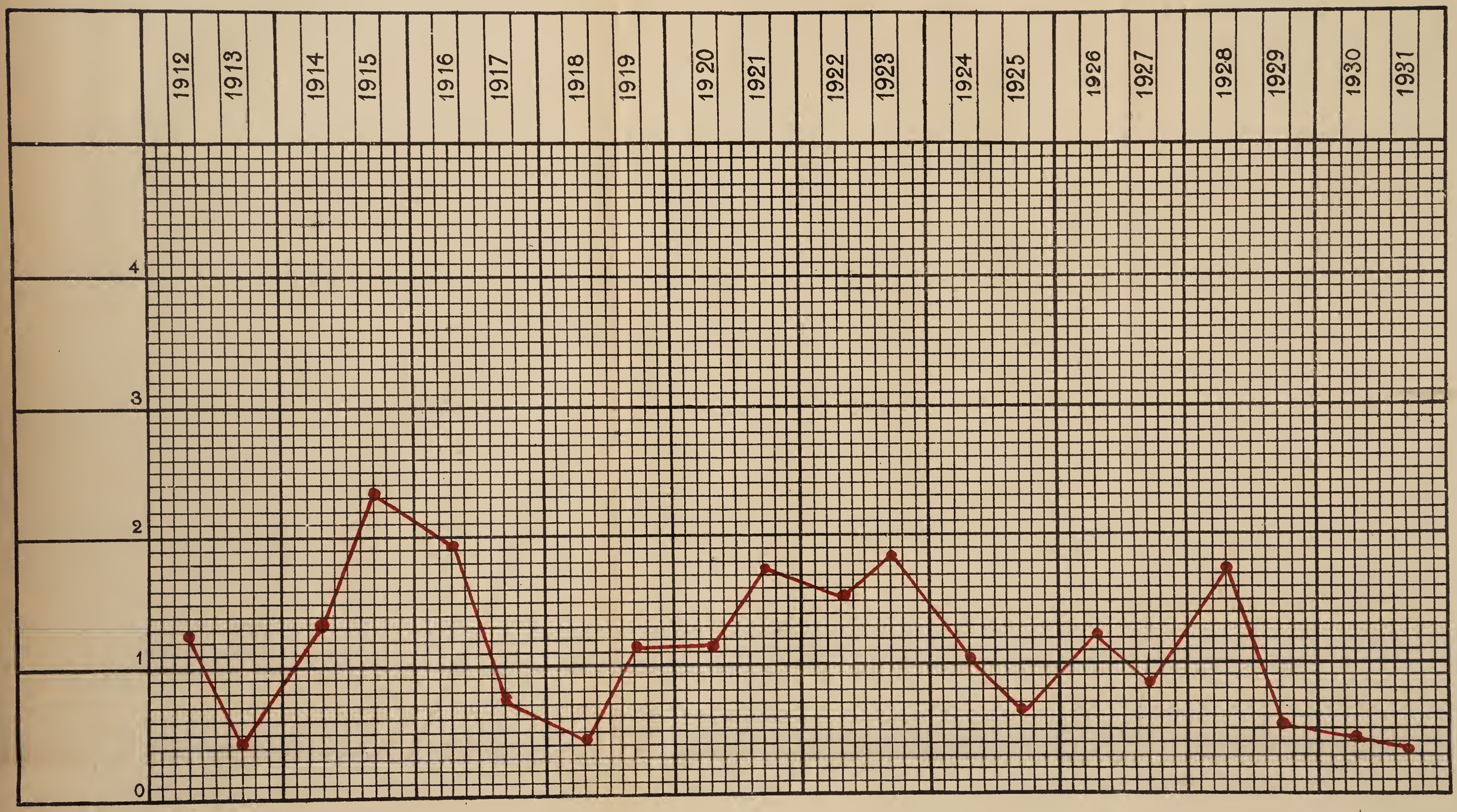
		Number.	Net Tonnage.	Number inspected.	Number left in quarantine.	Number admitted to Pratique.
British	Steam	947	3,286,935	2	—	2
	Sailing	21	2,746	—	—	—
	Total British	968	3,289,631	2	—	2
Foreign	Steam	1,404	3,579,035	2	—	2
	Sailing	1,137	31,987	—	—	—
	Total Foreign	2,541	3,611,022	2	—	2
	Total British and Foreign	3,509	6,900,703	4	—	4

GENERAL DEATH RATE PER 1,000 OF POPULATION (TOTAL CIVIL), GIBRALTAR, FOR THE DECENNIAL PERIODS
1912-1921 and 1922-1931



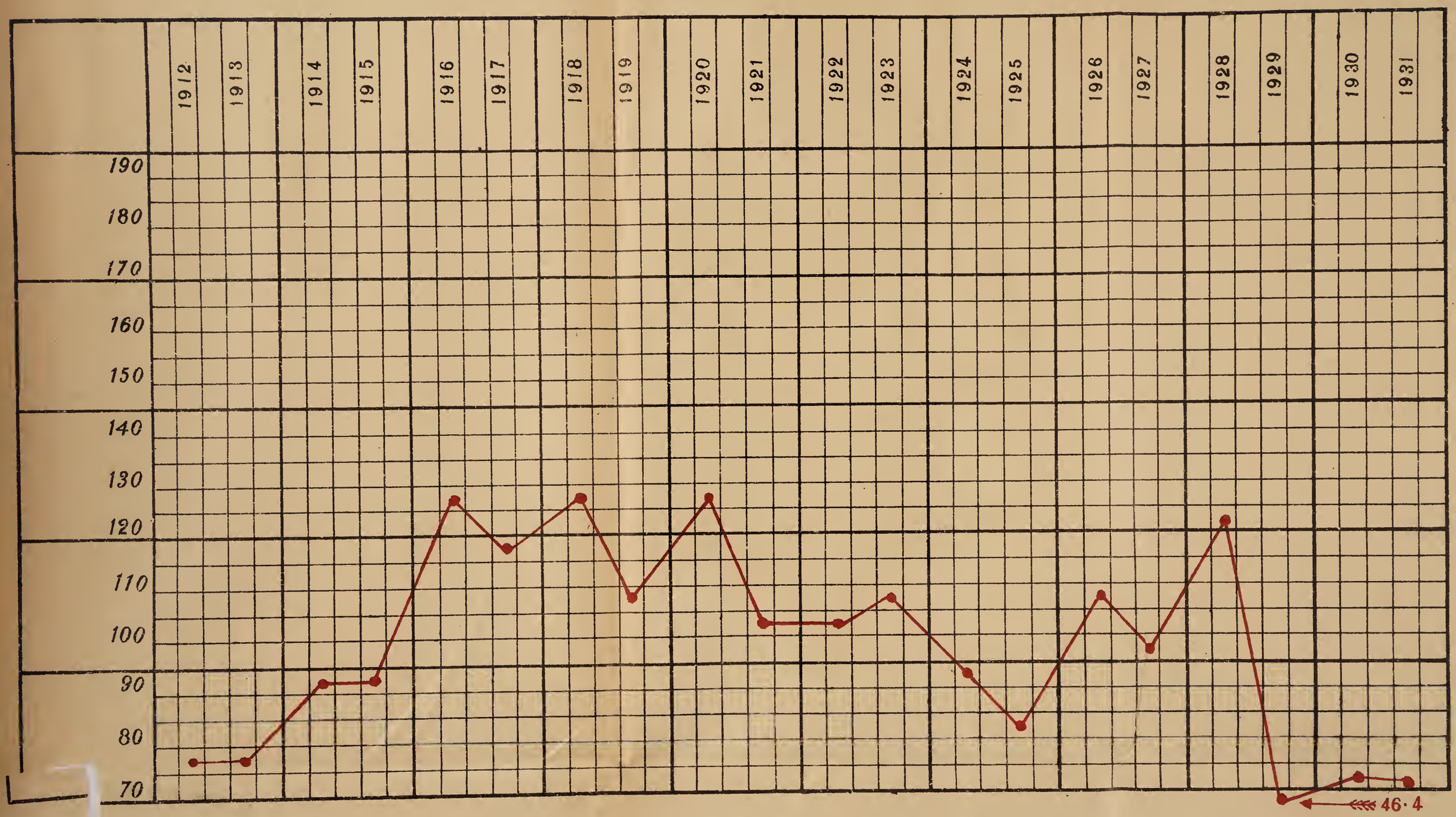
Average	1912-1916	15.0		1922-1926	16.0
	1917-1921	18.0		1927-1931	15.8
	1912-1921	16.5		1922-1931	15.9

ZYMOTIC MORTALITY PER 1,000 OF TOTAL CIVIL POPULATION, GIBRALTAR, FOR THE DECENNIAL PERIODS
1912-1921 and 1922-1931



Average	1912-1916	1.19	1922-1926	1.25
	1917-1921	1.05	1927-1931	.77
	1912-1921	1.1	1922-1931	1.0

INFANTILE MORTALITY PER 1,000 BIRTHS, GIBRALTAR, FOR THE DECENNIAL PERIODS 1912-1921 and 1922-1931



Average	1912-1916	91.8	1922-1926	98.6
	1917-1921	115	1927-1931	79.6
	1912-1921	103.4	1922-1931	89.1

GIBRALTAR.

REFERENCE

1. City Council's Quarries and Stone Yards.
2. City Council's Rain Water Catchment Area on East side of Rock.
3. City Council's Rain Water Catchment Area on West side of Rock.
4. City Council's Refuse Destructor and Tip.
5. City Council's Disinfecting Station.
6. City Council's Animal Post Mortem Room.
7. Slaughter Houses (under Colonial Government control).
8. Cattle Sheds (under Colonial Government control).
9. City Council's Brackish Water Pumping Station—North Front.
10. The Cemetery (under Colonial Government control).
11. City Council's Yard with Stalls for the Isolation of Animals suspected to be suffering from Infectious Disease.
12. City Council's Jetty for the supply of well water to the shipping for boiler purposes, &c.
13. City Council's Cart Sheds, Garages, Motor Repair Shop, &c.
14. Isolation Hospital (under Colonial Government control).
15. City Council's Rain Water Storage Reservoirs.
16. City Council's Brackish Water Reservoir ("Calpe").
17. City Council's "Moorish Castle" Reservoir with compartments for Fresh and Brackish waters.
18. City Council's Brackish Water Pumping Station ("Hesse's").
19. Colonial Hospital (under Colonial Government control).
20. Gibraltar Home for Sick and Aged (under the control of the City Council but maintained mainly from Government funds).
21. Gavino's Asylum for Aged Poor and Female Orphans.
22. Public Sea Bathing Establishments (controlled by the City Council).
23. City Council's Sewage Ejector Station.
24. Public Baths (under the control of the City Council).
25. City Hall and Public Health Department and Laboratories.
26. Fire Station (under City Council's control).
27. City Council's Electricity Works.
28. Military Sea Bathing Establishment.
29. City Council's Workshops.
30. City Council's Brackish Water Pumping Station (Europa Road).
31. "Europa Road" Reservoir with compartments for Fresh and Brackish Waters. Brackish Water portion under City Council's control: Fresh Water portion under War Department control.
32. Mental Hospital (under Colonial Government control).
33. Loretto Convent and Little Sisters of the Poor Home.
34. City Council's Brackish Water Reservoir ("Engineer Road").
35. City Council's Brackish Water Reservoir ("Windmill Hill").
36. Military Hospital.
37. City Council's Air Compressing Station.
38. Refuse Shoots, Europa.
39. Zymotic Blocks (Naval and Military).
40. Hebrew Asylum.
41. Public Markets (under Colonial Government control).
42. Boarding Station and Pier (under Colonial Government control).
43. The Pound (Dogs) and Lethal Chamber (under Colonial Government control).
44. Block of Tenement Buildings (First of Colonial Government Housing Scheme).

Scale, 6 Inches to a Mile

1000 Feet 500 0 1000 2000 3000 4000 5000 Feet

R.F. 70560

BEANLAND, MALIN & Co. Gibraltar.

Map Reproduced from "The Gibraltar Directory."